
Wellness at Queen's: Where are we Now?



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Leslie Flynn, Amber Hastings Truelove,
Debra Hamer, Erin Budd, Anees Bahji,
Nicholas Cofie, Claire Weersink

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Executive Summary

The ever-increasing rate of burnout in physicians has been considered an epidemic affecting learners, staff and faculty, all while having an adverse effect on quality of care throughout the entire healthcare system ([Canadian Medical Association 2018](#)). In the CanMEDS 2015 Professional Role the Royal College of Physicians and Surgeons of Canada identifies that physician wellness as evidenced by commitment to the health and well-being of self and colleagues is a requisite physician competency ([The Royal College of Physicians and Surgeons of Canada 2015](#)). This is echoed in the fourth pillar of the Quadruple Aim which recognizes that meeting the needs of patients means also meeting the needs of physicians ([Bodenheimer and Sinsky 2014](#)). The CMA National Physician Health Survey (2018) has recognized how much work still needs to be done in this area by identifying physician health and wellness as a priority ([Canadian Medical Association 2018](#)).

The Queen's University School of Medicine has also recognized the need to address physician wellness and deliberately incorporated it into the 2017-2021 Strategic Plan ([Queen's University School of Medicine 2017](#)). Through efforts to enhance wellness of students, residents and faculty, the School of Medicine has worked collaboratively to build awareness and address wellness challenges in health care. Beginning with this needs assessment of the current state of wellness within the Queen's University School of Medicine, areas that have been shown to adversely impact the quality of care and education have been identified. The development of enhanced wellness programs to address these emerging needs and enhance workplace wellness is in progress. This report provides a summary of the findings from this project and discusses efforts in ongoing sustainable changes made to enhance wellness.

Key Findings

Identified Factors that Promote Wellbeing

- Positive social support and community support at work
- Successful work-life integration
- Control and flexibility in one's professional life
- Access to a family physician is related to decreased risk of burnout
- There is a relationship between satisfactory financial status and engagement
- There is a relationship between not being worried about one's future career and engagement

Identified Factors that Hinder Wellbeing

- Unmanageable workload and job demands
- Insufficient or negative social support and community support at work
- Insufficient efficiency and resources at work
- Lack of a family physician is related to increased risk of burnout
- Perception of a lack of institutional support
- There is a relationship between unsatisfactory financial status and burnout
- There is a relationship between being worried about one's future career and burnout
- Respondents who indicated that they were worried about their future career prospects were significantly 160% more likely to be categorized as burned out than those who were not worried about their future careers
- Individuals with significant health problems were identified as being 96% more likely to meet the criteria for burnout than those who did not identify as having significant health problems

Recommendations

The following services should be made available:

- Access to a family physician for residents and physicians
- Facilitated access to mental health services for physicians
- Creation of peer support services
- Institutional support for wellness initiatives
- Career and transitional planning support service

Introduction

The issue of physician wellness and physician burnout has become an increasingly important topic over the past decade, including the realization that physician burnout leads to less than optimal patient care (Dzau, Kirch, & Thomas, 2018). Queen’s has recognized the need to prioritize physician wellness from the initial stages of medical training by including the promotion of a “culture of wellness” in the 2017-2021 strategic plan for the School of Medicine. To meet the longer-term goal of developing “enhanced wellness program[ing] to address emerging needs,” it is important to understand what factors contribute to wellness, as well as the interventions and programs that are able to best support the creation of a wellness culture for medical training and practice.

Figure 1: Queen’s School of Medicine Strategic Plan (2017-2021) “Promote a Culture of Wellness”

Near-Term Measures of Success (Year 1-2)	Longer-Term Aspirations (Year 3-5)
<ul style="list-style-type: none"> • Perform needs assessment of current wellness culture and create inventory of programs and activities • Establish a committee to advance concepts and develop recommendations to enhance wellness 	<ul style="list-style-type: none"> • Develop enhanced wellness programs to address emerging needs • Organizational leaders have been identified to enhance workplace and health human resource wellness have been established

Physician burnout has been a recognized problem in health care fields for a number of years. The term “burn-out,” was first applied to humans by Dr. Herbert Freudenberger in 1974. More recently, Maslach and Leiter (2016) have suggested that burnout is a psychological syndrome emerging as a prolonged response to chronic interpersonal stressors on the job” (p. 103), while Ruzycki and Lemaire (2018) define it as “a work-related syndrome that occurs in occupations where others' needs come first, and where there are high demands, few resources and a disconnect between workers' expectations and experiences” (p. E53). Since the early 2000s, many studies and surveys have been done to assess burnout in physicians, and findings have identified burnout rates ranging from 27% to 60% (e.g., Shanafelt, Balch, Bechamps, et al., 2009; Balch, Shanafelt, Sloan, Satele, & Kuerer, 2011; Friedberg, Chen, Van Busum, et al., 2013; West, Halvorsen, Swenson, & McDonald, 2013; Arora, Diwan, & Harris, 2013; Roberts, Shanafelt, Dyrbye, & West, 2014; Lu, Dresden, McCloskey, Branzetti, & Gisondi, 2015; Rath, Huffman, Phillips, Carpenter, & Fowler, 2015). These rates are even higher among medical students and residents, reaching 50% to 78% among trainee populations (e.g., Shanafelt, Bradley, Wipf, & Back, 2002; Dyrbye, Thomas, Massie, et al., 2008; Campbell, Prochazka, Yamashita, Gopal, 2010; de Oliveira Jr, Chang, Fitzgerald, et al., 2013;

Elmore, Jeffe, Jin, & Awad, 2016). The overall risks for this group as well as practicing physicians are significantly higher than age-matched college graduates and others with professional degrees (Dyrbye, West, Satele, et al., 2014).

Traditionally, the higher rate of burnout among trainees and early-career physicians has been viewed as an unfortunate reality of medical training in which the strongest, or most resilient trainees, the “survivors” (Maslach, 1982), are those who attain longevity in their careers. As healthcare professions increasingly focus on social responsibility and patient-centred care, researchers have begun to focus on the impact physician burnout can have on patient outcomes. Among the first studies to evaluate the relationship between physician burnout and quality of care was Shanafelt, Bradley, Wipf and Back’s (2002) study of internal medicine residents. Using the Maslach Burnout Index (MBI), they found that approximately 53% of burned out residents self-reported suboptimal care compared with 21% of non-burned-out residents. In a more recent study of anesthesiology residents in the US, de Oliveira Jr, Chang, Fitzgerald, et al. (2013) found that the median best practice score was significantly lower for residents at high risk of burnout than for residents at low risk. In addition, they found that residents who were at high risk for both burnout and depression reported multiple medical errors within the previous year (33%) compared to 0.7% of residents who were identified at low risk for burnout. Additionally, physician burnout is associated with lower patient satisfaction, and patients who reported longer recovery times (Halbesleben, & Rathert, 2008).

In the 2015 revision of the CanMEDs Framework, key content changes include the integration of competencies in safeguarding and enhancing patient safety throughout the framework. The Professional Role, one of the seven key roles identified in the CanMEDS Framework, now recognizes that “to provide optimal patient care, physicians must take responsibility for their own health and well-being and that of their colleagues” (CanMEDS 2015). The importance of physician health is built into the framework as a key competency of the professional role (Figure 1).

Figure 2: CanMEDS Key Competencies for the Role of the Professional:

Key competencies	Enabling competencies
<p>Physicians are able to:</p> <ul style="list-style-type: none"> • 4. Demonstrate a commitment to physician health and well-being to foster optimal patient care 	<ul style="list-style-type: none"> • 4.1 Exhibit self-awareness and manage influences on personal well-being and professional performance • 4.2 Manage personal and professional demands for a sustainable practice throughout the physician life cycle • 4.3 Promote a culture that recognizes, supports, and responds effectively to colleagues in need

We recognize that there is no one-size fits all solution for creating effective wellness programming, and that wellness programming must be contextually specific and situated within departmental and institutional settings. To ensure the efficacy of wellness programs offered at Queen’s, we needed to understand the needs of medical students, residents, and faculty. To identify the needs of our stakeholders we conducted an environmental scan to allow us to develop plans to address organizational issues and ensure appropriate supports for individuals in need.

The guiding questions for this needs assessment were:

1. What is the current status of medical student, resident, and physician health at Queen’s?
2. What factors contribute to medical student, resident, and physician wellness and/or burnout at Queen’s?
3. What organizational resources and educational interventions for medical school, residency, and faculty can contribute to physician well-being?

BURNOUT:

“A PSYCHOLOGICAL SYNDROME EMERGING AS A PROLONGED RESPONSE TO CHRONIC INTERPERSONAL STRESSORS ON THE JOB.”

-MASLACH & LEITER

“A WORK-RELATED SYNDROME THAT OCCURS IN OCCUPATIONS WHERE OTHER’ NEEDS COME FIRST, AND WHERE THERE ARE HIGH DEMANDS, FEW RESOURCES AND A DISCONNECT BETWEEN WORKERS’ EXPECTATIONS AND EXPERIENCES.”

-RUZYCKI & LEMAIRE

Methods

An online survey was distributed to medical students, residents and faculty across the School of Medicine. This survey used the Maslach Burnout Toolkit for Medical Personnel and included the Areas of Worklife Survey. Following completion of the survey, interviews were conducted with self-selected participants. Information on these tools can be found at <https://www.mindgarden.com/329-maslach-burnout-toolkit-for-medical-personnel>.

Table 1. Survey and interview participants by career stage.

Participants by Role		
	SURVEY	INTERVIEWS
OVERALL	412	13
Medical Students	102 (25%)	4
Residents	113 (23%)	3
Faculty Members	197 (57%)	6

Quantitative Analysis

Three aspects of the Maslach Burnout Inventory were combined to create burnout profiles. Higher Personal Accomplishment reduces burnout, whereas higher Emotional Exhaustion and Depersonalization contribute to burnout.

Emotional Exhaustion

- Feeling overwhelmed, stressed and weary; the demands of the job feel far greater than one is able to give

Depersonalization

- Lost enthusiasm or an unfeeling, impersonal response to the recipients of one's care

Personal Accomplishment

- Feeling low levels of competence and effectiveness, and not having a beneficial impact on people

Table 2. Burnout profiles according to the Maslach Burnout Inventory

Profile	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Engaged	Low	Low	High
Ineffective			Low
Overextended	High		
Disengaged		High	
Burnout	High	High	

A person with the **Engaged** profile scores well on all three scales: low on Emotional Exhaustion and Depersonalization, and high on Personal Accomplishment.

A person with the **Ineffective** profile has a low Personal Accomplishment score. The Ineffective profile is characterized by diminished feelings of competence and successful achievement in one's work. This reflects a loss of confidence in one's capabilities — perhaps as a result from work that feels tedious or an environment that offers little recognition for a job well done.

The **Overextended** person has a different psychological experience, shown by a high Emotional Exhaustion score. This might be the profile of a physician who is dedicated to her job and who derives a strong sense of accomplishment from her work yet feels emotionally exhausted due to long work hours and disrupted recovery opportunities. This physician is fulfilled and involved, but emotionally drained.

The **Disengaged** profile features a high Depersonalization score which signals a crisis in values or diminished confidence in management. The disengaged person has energy and confidence in his competence but finds it difficult to dedicate himself to his work.

While the previous three profiles are characterized by one problematic scale score, a person with the **Burnout** profile has problematic results on both Emotional Exhaustion and Depersonalization (Leiter et al., 2019, p. 17).

Using a Pearson Chi-Square test of independence and bivariate logistic regression models, we assessed the association between burnout profiles and respondents' demographic characteristics. The demographic variables examined include:

- Career level
- Age
- Years of Practice
- Career stage
- Access to a family physician
- Perception of institutional support
- Worry for future career prospects
- Significant health problems
- Career stage
- Year of medical training

Also, a multivariate logistic regression model was estimated to examine the relative effect of each of the demographic variables on the likelihood or odds of being burned out. The outcome variable of interest in the logistic model is therefore a binary measure of whether respondent was classified as burned out. Respondents who were burned out were coded 1 and those were not burned out were coded 0.

Findings

Survey Responses

Table 2: Distribution of Burnout Profiles in Overall Sample

Profile	Number	%
Engaged	132	32
Ineffective	78	18.9
Overextended	108	26.2
Disengaged	19	4.6

Burned out	75	18.2
Total	412	100

Survey responses were initially compiled through a report provided by MindGarden. Additional statistics were run on the data using SPSS by the Office of Professional Development and Educational Scholarship.

Table 3. Burnout profiles by level of career.

Profile	Medical Students		Residents		Faculty	
	Count	%	Count	%	Count	%
Engaged	30	29.4	31	27.4	71	36
Ineffective	32	31.4	14	12.4	32	16.2
Overextended	25	24.5	22	19.5	61	31
Disengaged	5	4.9	10	8.8	4	2.0
Burned Out	10	9.8	36	31.9	29	14.7
Total	102	100	113	100	197	100

Pearson Chi-Square results = $\chi^2 (8, N = 412) = 41.47, p = .000$

As seen in Table 3, based on survey results medical students, residents and faculty members were profiled into one of 5 categories; engaged, ineffective, overextended, disengaged, or burned out. These results show that the career level of respondents is significantly associated with burn out. Compared to medical students and faculty, a higher number of residents are likely to be burned out. Of the 113 residents who participated in the survey, 31.9% were profiled as feeling burned out. *Figure 1* displays the Maslach Burnout Inventory scores by role. Higher emotional exhaustion and depersonalization contribute to burnout, whereas higher personal accomplishment reduces burnout. Frequency scores from 1,104 medical workers (physicians and nurses) are included for comparison in

Figure 1. The frequency with which each category was experienced was measured on a 6-point scale with 0 = never having experienced a category, and 6 = experience the category every day.

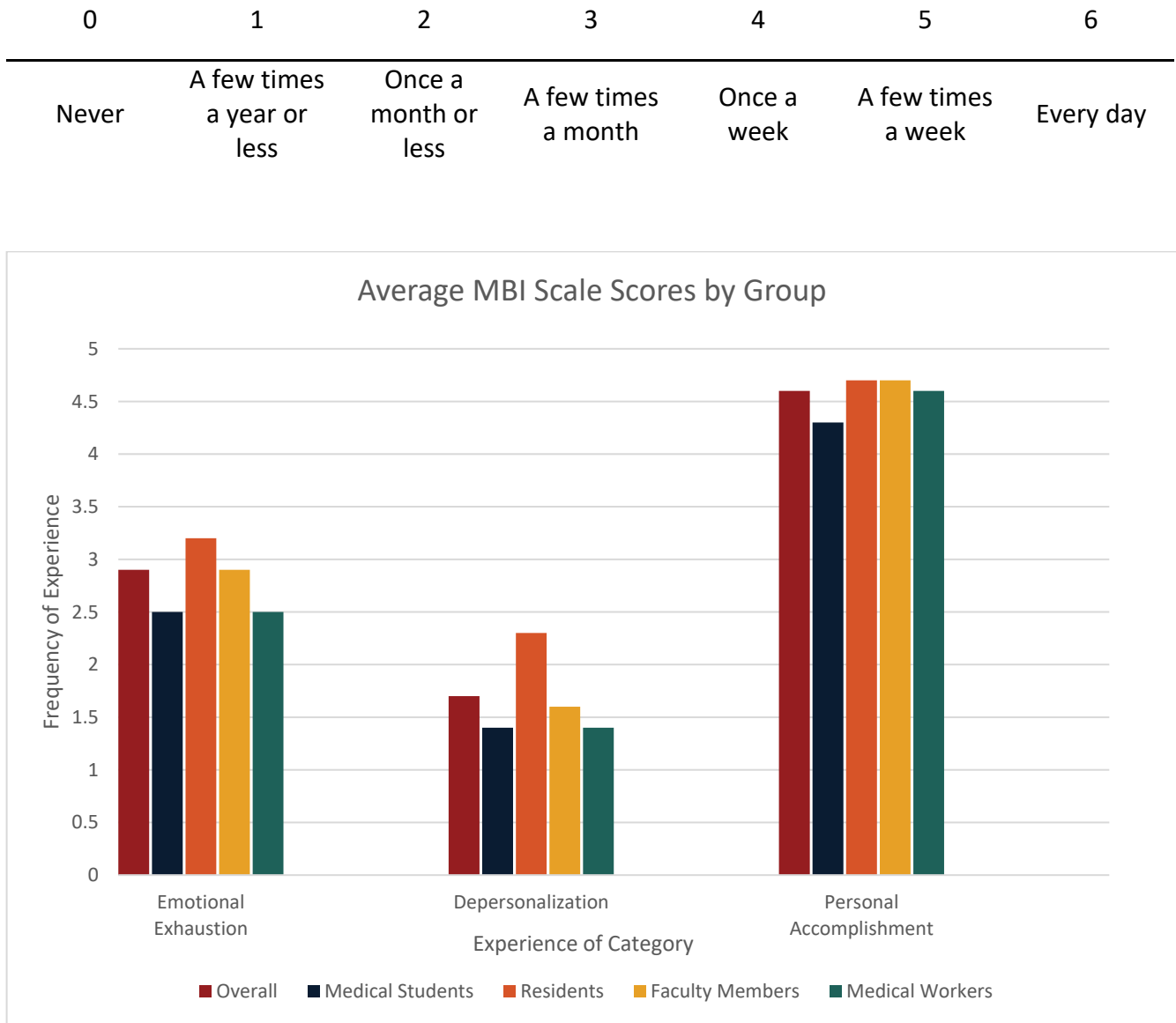


Figure 1. Maslach Burnout Inventory Scores by Role.

Participant age was an explanatory factor for burnout and for engagement. Of the 75 participants who met the criteria for Burnout, 67 (89%) were between the ages of 19 and 49. Of the 27 participants who were over the age of 60, 18 (67%) were categorized as Engaged (Table 4).

Table 4. Burnout Profile by Age

Profile	19-29		30-39		40-49		50-59		60-69		70-79		Total # of people in each category	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Engaged	40	26.8	35	30.4	25	33.3	14	30.4	16	64.0	2	100	132	32.0
Ineffective	37	24.8	19	16.5	11	14.7	8	17.4	3	12.0	0	0	78	18.9
Overextended	28	18.8	34	29.6	24	32.0	17	37.0	5	20.0	0	0	108	26.2
Disengaged	14	9.4	5	4.3	0	0	0	0	0	0	0	0	19	4.6
Burned out	30	20.1	22	19.1	15	20.0	7	15.2	1	4.0	0	0	75	18.2
Total	149		115		75		46		25		2		412	

Pearson Chi-Square results = $\chi^2(4, N = 412) = 42.75, p = .002$

Respondents who identified as having significant physical or mental health problems were more likely to meet the criteria for being Overextended or Burned out. Of the 42 people who said that they had significant health problems, 16 (38.1%) indicated that they were overextended, and 13 (31%) indicated that they were burned out. Of the 370 participants who did not identify as having significant health problems, 92 (24%) indicated that they were overextended, and 62 (16.8%) indicated that they were burned out. Engagement was also related to health problems, as only 6 (14.3%) of the 42 people with significant health problems met the criteria for Engaged, compared to 126 (34.1%) of the 370 people without significant health problems (Table 5).

Table 5. Burnout profile by significant health problems

Profile	Has significant health problems		Does not have significant health problems	
	Number	%	Number	%
Engaged	6	14.3	126	34.1
Ineffective	5	11.9	73	19.7
Overextended	16	38.1	92	24.9
Disengaged	2	4.8	17	4.6
Burned out	13	31.0	62	16.8
Total	42		370	

Pearson Chi-Square results = $\chi^2(4, N = 412) = 12.52^a, p = .014$

For faculty, respondents who identified as being in the early stages of their career were more likely to meet the categories of Ineffective 14 (21.5%) of 65 respondents, and Disengaged 4 (6.2%) of 65 respondents, than those who were identified as being mid- or late career. Respondents who identified as being mid-career were more likely to be overextended 32 (37.6%) of 85 responses or burned out (16 (18.8%) of 85 responses, compared to those who are either early or late career. Respondents in the later stages of their career were more likely to be engaged 24 (51.1%) of 47 responses than colleagues who are in earlier stages of their careers (Table 6).

Table 6. Burnout profile by career stage

Profile	Early Career		Mid-Career		Late Career		Total # of people in each category	
	Number	%	Number	%	Number	%	#	%
Engaged	20	30.8	27	31.8	24	51.1	71	36.0
Ineffective	14	21.5	10	11.8	8	17.0	32	16.2
Overextended	18	27.7	32	37.6	11	23.4	61	31.0
Disengaged	4	6.2	0	0	0	0	4	2.0
Burned out	9	13.8	16	18.8	4	8.5	29	14.7
Total	65		85		47		197	

Pearson Chi-Square results = $\chi^2(4, N = 412) = 18.74, p = .016$

For medical students (Table 7), year of medical training was also significantly associated with the Burnout Profiles. Respondents from year 1 (n = 33) and respondents from year 4 (n = 12) were more likely to be engaged than students in years two and three. Of the 33 respondents in year one, 11 (33.3%) were categorized as engaged; however, 14 (42.2%) were categorized as ineffective compared to those in upper years. Year two respondents (n = 30) were more likely to indicate that they were overextended 11 (36.7), when compared to other years. Respondents in year three (n = 27) and year four (n = 12) were more likely to be burned out than respondents in years one and two. Six (22.2%) of the 27 respondents in year three met the criteria for burnout, as did three (25%) of those who responded in year four. There was no significant association found between year of residency training and burnout.

Table 7. Burnout profile by year of medical training

	Year 1		Year 2		Year 3		Year 4		Total # of people in each category	
	#	%	#	%	#	%	#	%	#	%
Engaged	11	33.3	8	26.7	7	25.9	4	33.3	30	29.4
Ineffective	14	42.4	10	33.3	6	22.2	2	16.7	32	31.4
Overextended	7	21.2	11	36.7	6	22.2	1	8.3	25	24.5
Disengaged	0	0	1	3.3	2	7.4	2	16.7	5	4.9
Burned out	1	3.0	0	0	6	22.2	3	25.0	10	9.8
Total	33		30		27		12		102	

Pearson Chi-Square results = $X^2(4, N = 412) = 23.65, p = .016$

Having access to a family physician was significantly associated with burnout, particularly with regard to engagement and burnout (Table 8). Of the 327 respondents who had access to a family physician, 112 (34.3%) were categorized as engaged. Of the 85 participants who did not have access to a family physician, 23 (27.1%) met the criteria for burnout. Compared to those who did have access to a family physician (2.4%), those who did not were also more likely to be disengaged (13%).

Table 8. Burnout profiles by access to a family physician

Profile	Has a family physician		Does not have a family physician	
	Number	%	Number	%
Engaged	112	34.3	20	23.5
Ineffective	64	19.6	14	16.5
Overextended	91	27.8	17	20
Disengaged	8	2.4	11	12.9
Burned out	52	15.9	23	27.1
Total	327		85	

Pearson Chi-Square results = $X^2(4, N = 412) = 25.06, p = .000$

Table 8 looks specifically at the burnout profiles of all participants and their access to a family physician. As seen in Table 8, of the total participants who have been profiled as feeling burned out, 27% do not have a family physician. Access to a family physician can be a protective factor against burnout, while there is an increased risk of burnout when an individual does not have access to a family physician (Figure 2). Of the 85 people that did not have a family physician, 27% were categorized as burned-out vs 16% of those who did have a family physician. Of the 327 people who did have family physicians, 112 people (34%) were categorized as engaged, while only 52 (16%) were categorized as burned out.

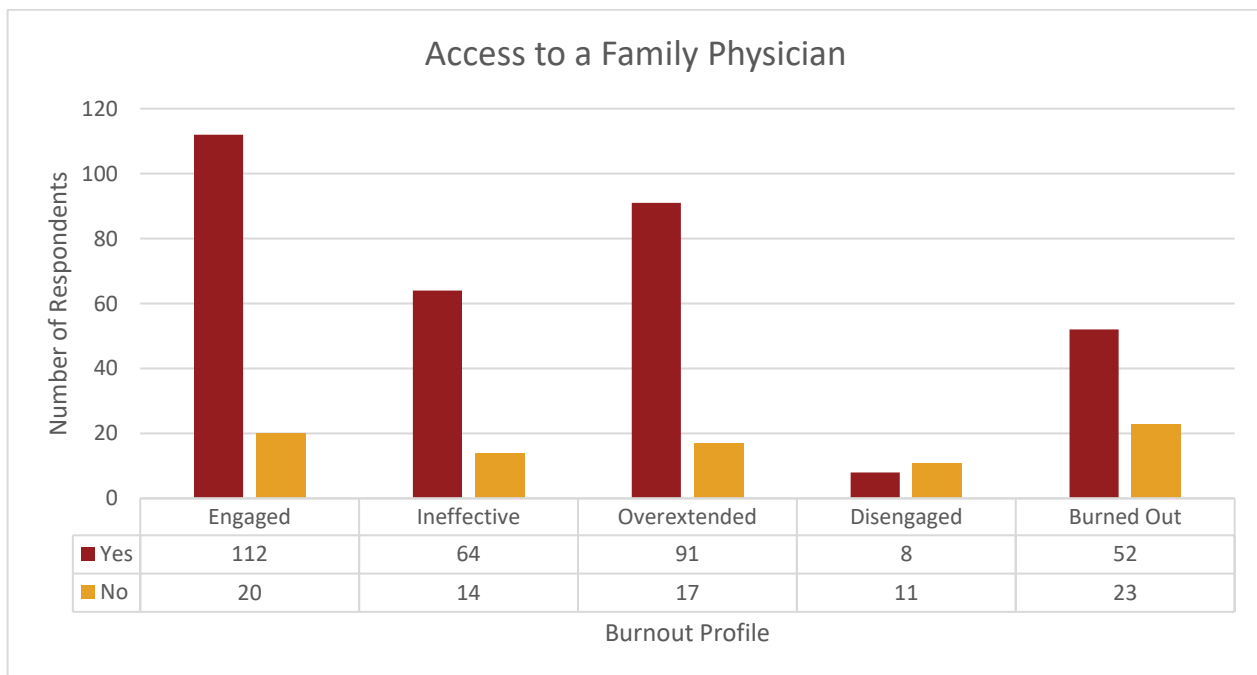


Figure 2. Burnout profiles by access to a family physician. Results show a relationship between burnout and not having access to a family physician.

We also identified relationships between Burnout Profiles and participants’ perceptions of institutional support (Table 5). Participants’ perceptions of having institutional support (n = 327) is significantly associated with the Engaged profile (39%). When participants perceive that they do not have institutional support (n = 85), there is an increased likelihood of their being categorized as Overextended (44%) or Burned Out (25%) compared to participants who perceive that they have institutional support. Of the 327 participants who indicated that they had institutional support, 54 (17%) were categorized as burned out. Of the 85 participants who did not feel that they had institutional support, 21 (25%) were categorized as burned out, and 37 (44%) were categorized as overextended.

Table 9. Burnout Profile by Perception of Institutional Support

Profile	Supported		Unsupported	
	Count	%	Count	%
Engaged	117	35.8	15	17.6
Ineffective	68	20.8	10	11.8
Overextended	71	21.7	37	43.5
Disengaged	17	5.2	2	2.4
Burned out	54	16.6	21	24.7
Total	327		85	

Pearson Chi-Square results = $\chi^2(4, N=412) = 25.75, p = .000$

The majority of participants indicated that they felt supported by their institution (n = 327) and Engaged (n = 117); however, individual perceptions of the institutional support do not seem to be a protective factor for the categories of Ineffective (68) or Overextended (71) (Figure 3). Medical students and residents most often identified Queen’s University as their institution, while faculty provided far more diverse responses including Queen’s, KHSC, KGH, Hotel Dieu and Providence Care.

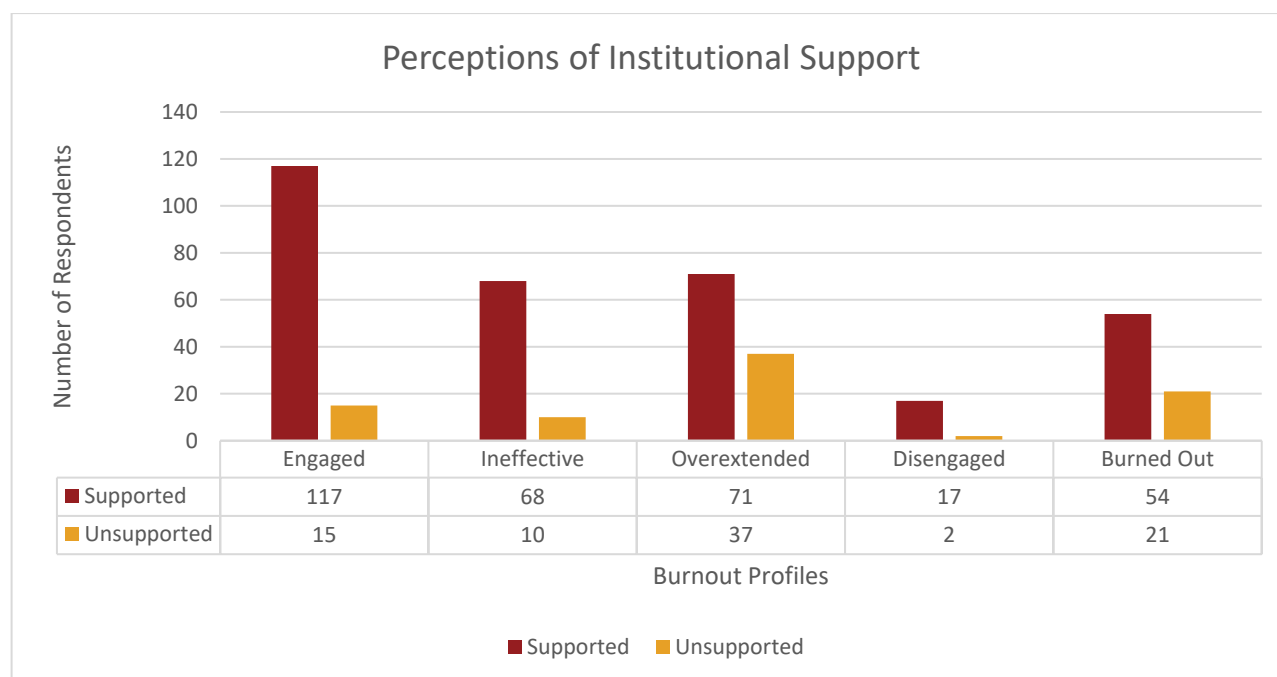


Figure 3. Burnout profiles by perception of institutional support (n = 412). Results show that participants who perceive a lack of institutional support are more likely to be disengaged or burned out.

There is also an identified relationship between financial status and the category of Engagement and financial status and the category of Burn out. Patterns that emerged from respondent data indicated that those who are more satisfied with their financial status are more likely to be Engaged, while those who are identified under the burnout profile are more likely to be unsatisfied with their financial status. Of the 83 people who indicated that they were unsatisfied with their financial status, 23 (28%) met the criteria for burnout, while 22 (27%) met the criteria for being overextended (Table 10). Of the 329 people who indicated that they were satisfied with their financial status, 119 (36%) were identified as Engaged.

Table 10: Burnout Profiles by Financial Status

profile	Satisfactory		Unsatisfactory		Total # of people in each category	
	Count	%	Count	%	Count	%
Engaged	119	36.2	13	15.7	119	13
Ineffective	62	18.8	16	19.3	62	16
Overextended	86	26.1	22	26.5	86	22
Disengaged	10	3.0	9	10.8	10	9
Burned out	52	15.8	23	27.7	52	23
Total	329		83		329	83

Pearson Chi-Square results = $\chi^2 (4, N=412) = 22.62, p = .000$

Figure 4 shows that while engagement is higher for those who are satisfied with their financial status, overextension may also be a concern (26%).

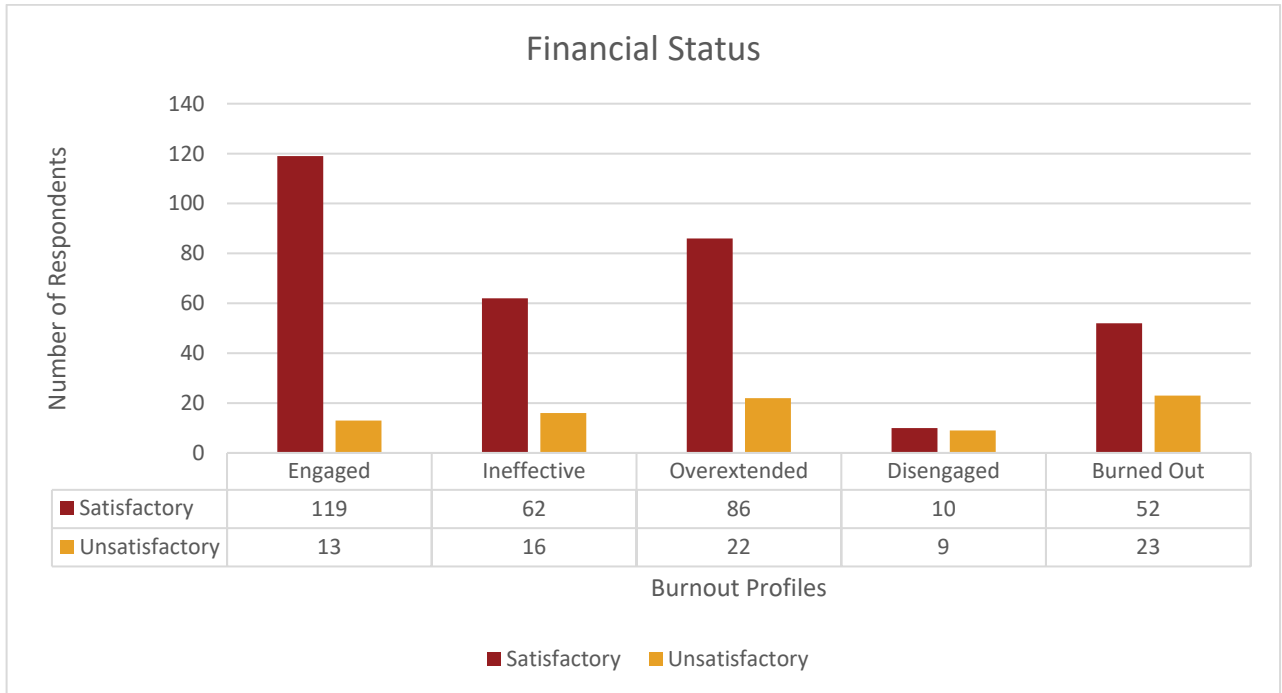


Figure 4: Burnout profiles by financial status (n = 412).

Findings also indicated a significant association between future career worries and Engagement, Burnout, and Overextended. Of the 260 people who indicated that they were not worried about their career futures, 106 (41%) were categorized as Engaged. Of the 152 people who indicated that they were worried about their career futures, 44 (30%) were identified as Overextended, while 42 (28%) were identified as Burned Out.

Table 11: Burnout by Worry for Future Career

Profiles	Worried		Not Worried		Total # of people in each category	
	Count	%	Count	%	Count	%
Engaged	26	17.1	106	40.8	26	106
Ineffective	30	19.7	48	18.5	30	48
Overextended	44	28.9	64	24.6	44	64
Disengaged	10	6.6	9	3.5	10	9
Burned out	42	27.6	33	12.7	42	33
Total	152		260		152	260

Pearson Chi-Square results = $\chi^2(4, N=412) = 31.32, p = .000$

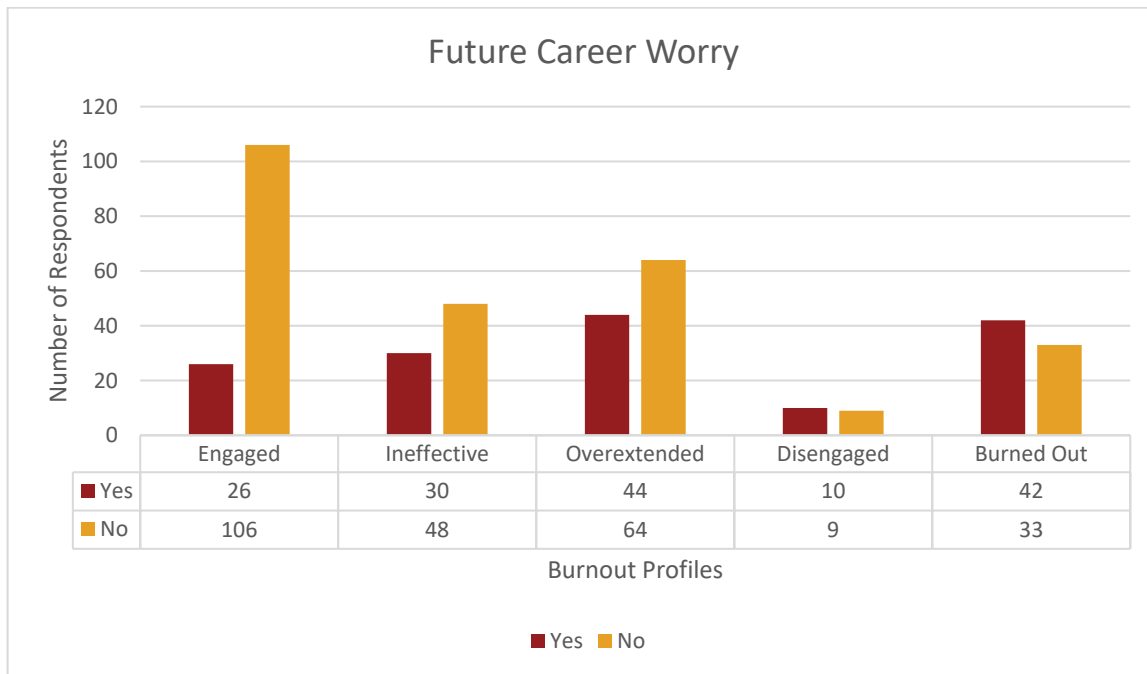


Figure 5: Burnout by Worry for Future Career (n = 412)

Logistic Regression Model

Using a logistic regression model, we also examined predictive factors that are associated with burnout (Table 12). We found that medical students were significantly 82% less likely to be categorized as burned out than residents ($OR = 0.18, p < .05$) after accounting for the effects of relevant demographic predictor variables. The multivariate results also indicate that respondents who indicated that they were worried about their future career prospects were significantly 160% more likely to be categorized as burned out than those who were not worried about their future careers ($OR = 2.30, p < .05$). While not statistically significant, it should be noted that individuals with significant health problems were identified as being 96% more likely to meet the criteria for burnout than those who did not identify as having significant health problems. The effect of this variable was, however, significant in the bivariate model ($OR = 2.23, p < .05$). In addition, although not having access to a family physician significantly predicted higher odds (96% more likely) of being burned out ($OR = 1.96, p < .05$), this effect attenuated or decreased when other variables were accounted for in the multivariate model. As with the effect of having significant health problems, this finding suggests that the observed effect of not having access to a family physician on burnout may be mediated or moderated by the other explanatory variables controlled for in the multivariate model. The r^2 from the multivariate model revealed that the demographic variables used in the analysis account for

about 12% of the variation in burnout. This suggests that factors other than those included in the current analysis may be associated with burnout and therefore future research may need to control for the effects of such factors.

Overall, the multivariate results suggest that of all the demographic variables used in the analysis, career level and being worried appear to have the greatest significant effect on burnout. The effects of other demographic variables such as not having access to a family physician and having significant problems were only significant at the bivariate level of analysis, indicating that the effects of these variables on burnout may be mediated or moderated by other factors.

Table 12: Logistic regression model examining the predictive factors associated with burnout

	Bivariate Model			Multivariate Model		
	Odds ratio (OR)	Confidence Interval		Odds ratio (OR)	Confidence Interval	
Role (ref: Residents)						
Medical Students	0.232* (0.090)	0.108	0.498	0.184* (0.795)	0.078	0.429
Faculty	0.369 (0.105)	0.211	0.645	0.462 (0.221)	0.180	1.181
Age (ref: 19-29)						
30-39	0.938 (0.293)	0.508	1.732	0.703 (0.281)	0.320	1.543
40-49	0.991 (0.350)	0.495	1.983	1.167 (0.701)	0.359	3.788
50-59	0.711 (0.326)	0.289	1.748	0.798 (0.565)	0.199	3.202
60+	0.152* (0.158)	0.019	1.169	0.211 (0.250)	0.020	2.149
Significant Health Problem (ref: No sig. health problems)						
Significant Health Problems	2.226* (0.805)	1.096	4.524	1.966 (0.799)	0.886	4.361
Financial Status (ref: satisfactory)						
Unsatisfactory	2.041* (0.588)	1.161	3.591	1.262 (0.430)	0.647	2.416
Perception of Institutional Support (ref: supported)						
Unsupported	1.658* (0.484)	0.935	2.941	1.344 (0.459)	0.687	2.627
Future career worries (ref: not worried)						
Worried	2.626* (0.682)	1.577	4.372	2.300* (0.662)	1.308	4.04

Access to a family physician (ref: has a family physician)

No family physician	1.961* (0.563)	1.117	3.444	1.675 (0.534)	0.896	2.627
Constant				0.254 (0.888)	0.128	0.540
McFadden's R ²				0.117		
Log-likelihood				-172.507		

Statistical significance:

*p < 0.05

Standard errors are shown in parentheses. Ref. is reference category

Qualitative Analysis

Data gathered from 101 medical students, 110 residents and 195 faculty members has provided insight into the current state of Physician Wellness in the Queen's University School of Medicine. After coding the written answers to the survey questions, it is clear this area of research is extremely important at each stage of physician education and practice. The six written answer questions were coded using open coding in Nvivo. Inter-rater reliability was determined using a second coder to set the codes. The codes were then further sorted into themes using the Nine Organizational Strategies to Promote Engagement and Reduce Burnout (Shanafelt & Ceo, 2017) while keeping the Areas of Worklife Scale (Leiter & Maslach, 2003) in mind. Key findings from the coding process are below.

Following the qualitative coding described above, the most prominent factors that were found to promote and hinder wellbeing were identified. Social Support & Community at Work has been identified to have an impact on both promotion and hindrance of wellbeing. Shanafelt (2017) describes Social Support & Community at Work as the sense of collegiality in the practice environment, as well as across the institution. Work-Life Integration refers to the ability of medical professionals in training and practice to have the priorities in their personal life respected by their institution through scheduling and vacation policies (Shanafelt & Ceo, 2017). Control & Flexibility is outlined as one's degree of flexibility. Workload & Job Demands refers to the productivity expectations placed on medical professionals and the use of allied health professionals. And lastly, Efficiency & Resources has been described by Shanafelt (2017) as the ability to delegate as well as the availability of support staff. Below are the described factors separated by their impact on wellbeing as per the qualitative analysis.

Identified Factors that Promote Wellbeing

- Social Support & Community at Work
- Work-Life Integration
- Control & Flexibility

Identified Factors that Hinder Wellbeing

- Workload & Job Demands
- Social Support & Community at Work
- Efficiency & Resources

Interview Response Examples

Identified Factors that Promote Wellbeing

Social Support & Community at Work

“In general people are keeping an eye out on each other. I think the only thing we could do is add into the wellness curriculum... how do you recognize when someone is in need and how do you approach that?” -Student

“A great team that communicates about what goes well and what goes badly excellent peer group dynamics” -Resident

“I think most of that support comes from other residents or classmates. We look out for each other and we encourage each other.” -Resident

“It is that sense that you have colleagues who understand your work and you talk to them and you can count on them. And that they can count on you.” -Faculty

Work-Life Integration

“I have always been a believer of me not being able to help anyone if I am not helping myself.” -Student

“In order to take care of others you have to take care of yourself. That means different things to different people.”-Resident

“I think it (work-life integration) makes us better physicians, when you are burnt out you can't care for others. And I think it makes you a better physician and more balanced and better at work and a better team player, all of those things.” -Faculty

Control & Flexibility

“I think if I had to just guess right now, the number one response to what does a student need to do in order to be well is autonomy. It is a feeling of space and autonomy and a feeling of having control over my time.” -Student

"I will take a step back and say that when I reflect on it, the things that help us stay well in a career like this are the sense that there is some independence. So, you have got some flexibility. So, if a child is sick you know that you can respond to that sort of thing." -Faculty

Identified Factors that Hinder Wellbeing

Workload & Job Demands

"I have seen articles where family physicians want to work part time and then full-time physicians are somehow shaming them for that. There is all this discussion, can you be an adequate physician working part time?" -Student

"I think the biggest barrier for resident wellness is not the lack of skills, I think it is the amount of time that we have to spend in the hospital. I don't think it is a skill acquisition problem. I think it is a lot about burnout and lack of sleep more so than anything else." -Resident

"If I say I'm feeling burnt out and can't do it, then my colleague will have to do it. And I know she is also barely just hanging on" -Faculty

"Lack of sufficient staff leads to crushing clinical workloads, leaving insufficient time to take part in administrative, educational, and research roles, which are increasingly being pushed on us despite lack of sufficient time." -Faculty

Social Support & Community at Work

"It might be that [an older] generation of physicians and what they perceive as their career fundamentally does not match what some of the newest generation of students perceive as wellness." -Student

"I think that training for people who are seen as the main support or first line support is needed...so for me that means program directors, that would be a big component of the wellness curriculum that I would like to see. And I think it could help a lot." -Resident

"Some departments have a very positive culture for that (collegial support) and others don't. It is multi-factorial as to why but can be detrimental to a team." -Faculty

Efficiency & Resources

"I know I had to wait over a month to see a counselor and people wait weeks and weeks to see her."-Student

"For me when I think of wellness resources, I think more of things that are about maintaining that wellness as opposed to being on the burnout end of the spectrum and there are very few resources that come to mind." -Resident

"There was definitely the intention to support, but the resources were not there." -Faculty

Perception of Institutional Support

"It has been challenging during exams or at times when everyone is busy and more people than usual are trying to access resources, that is when that support gets lost." -Student

"People like to talk about it [wellness] in public talks and sessions about burnout. So yeah, they are promoting it and encouraging it but follow through? Not so much." -Resident

"If you are talking about support for resources before people are broken, I would say there are none. Or very little. Very little that is recognized explicitly as support for your mental health or your emotional well-being." -Faculty





Conclusions

Overall, medical students, residents and faculty in Queen’s School of Medicine feel that Queen’s is a supportive environment in which to work and learn; however, there is room for improvement. Out of these three groups, medical students identified feeling the most supported in terms of wellness and were also identified as the most disengaged of the three groups. This may be because of students who have not yet started clinical placements and who do not have the same interactions with patients as residents and faculty. Residents reported receiving most of their support from their peer groups and were the group with the highest burnout rates. Faculty members often had trouble identifying any wellness supports available to them and were identified as overextended.

Results of This Work

This work has been both informative and instrumental in guiding the next steps required to promote a culture of wellness within the School of Medicine. As a result of the findings described in this report, next steps in ensuring concrete change occurs to enhance wellness programs have begun. All new faculty members in the School of Medicine, and all incoming residents who explicitly identify a need for a family physician, will be assigned a Family Physician. Streamlined access to Mental Health care for physicians began at the beginning of the pandemic and will be continued indefinitely. Lastly, the Physician Wellness Advisory Committee has begun to develop a peer support program for those in need of collegial support following an adverse event or during difficult times. When referring back to the 2017-2021 Strategic Plan, enhanced wellness programs to address the identified emerging needs have begun and organizational leaders have been identified to enhance workplace wellness. This being said much work is still needed to further the culture of wellness at Queen’s University School of Medicine for students, residents and faculty members.

Queen’s School of Medicine Strategic Plan (2017-2021) Promote a Culture of Wellness

Near-Term Measures of Success (Year 1-2)	Longer-Term Aspirations (Year 3-5)
 Perform needs assessment of current wellness culture and create inventory of programs and activities	 Develop enhanced wellness programs to address emerging needs
 Establish a committee to advance concepts and develop recommendations to enhance wellness	 Organizational leaders have been identified to enhance workplace and health human resource wellness have been established

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