

PHYSICIAN HEALTH AND WELLNESS IN CANADA:
**Connecting behaviours
and occupational stressors to
psychological outcomes**

OCTOBER 2019



Introduction



The Canadian Medical Association (CMA) is pleased to release *Connecting behaviours and occupational stressors to psychological outcomes*. This report documents the results of further analysis of data collected from the CMA National Physician Health Survey (NPHS) conducted in 2017.

The first findings were issued in our [2018 National Snapshot](#) which provides prevalence data and demographic breakdowns of psychological variables. Following that report, we delved further into data collected to see if specific behavioural and occupational variables could be identified as indicators predicting psychological variables. Such linkages could provide important insights, including modifiable practices at the individual, occupational, socio-cultural and system levels that could be targeted for change.

In this report we describe the methodology as well as some of the results first reported in the National Snapshot. The report then delves into the new work and describes which behavioural and occupational variables are indeed significant indicators that predict psychological variables.

The CMA's National Physician Health Survey is an important contribution to the study of the health and wellness of physicians working in Canada, both those in practice and residents. Except for data reported by the CMA in 2008, there has been a dearth of Canadian data, though the extent of continuing anecdotal accounts from the CMA membership has been a cause for concern. Moreover, information on the specific factors impacting physician health and wellness has been absent. The associations drawn from our survey results represent areas for further study and highlight opportunities to create significant change in the lives of physicians who are at risk of experiencing negative health and wellness outcomes.

The CMA would like to thank the Expert Working Group for their guidance throughout this project. Members included representatives with physician health expertise from the Forum of Canadian Physician Health Programs, the Royal College of Physicians and Surgeons of Canada, the College of Family Physicians of Canada, Resident Doctors of Canada and the Association of Faculties of Medicine of Canada.

Executive summary

A total of 34,517 CMA members from all provinces and territories were contacted by email and invited to respond to a secure online survey. In total, 400 residents and 2,547 physicians responded to the survey, for an 8.5% response rate. Participants were asked questions pertaining to a variety of behavioural, occupational and psychological variables.

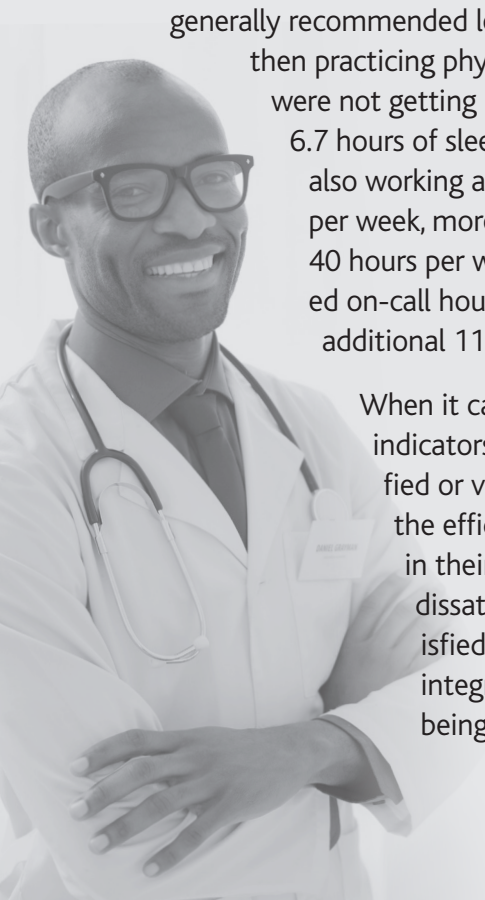
Among behavioural indicators, close to half of the respondents (48%) reported not leading a sufficiently active lifestyle, over one in five (22%) did not regularly eat healthily, and 18% did not have regular access to a personal physician. If we accept that eight hours is the generally recommended length of daily sleep, then practicing physicians and residents were not getting enough of it, averaging 6.7 hours of sleep per night. They were also working an average of 48 hours per week, more than the standard 40 hours per week, and this excluded on-call hours which averaged an additional 111 hours every month.

When it came to occupational indicators, 53% were dissatisfied or very dissatisfied with the efficiency and resources in their workplace, 38% were dissatisfied or very dissatisfied with their work-life integration, 28% reported being dissatisfied or very

dissatisfied with workplace control and flexibility, and almost one in five (19%) demonstrated a relatively high level of presenteeism by going into work five or more times while feeling physically ill or distressed in the last 12 months. Low overall levels of collegiality were experienced by 13% of respondents, and 11% were dissatisfied or very dissatisfied with their career in medicine.

The results for psychological variables were reported in detail in the [National Snapshot](#). While the majority of physicians reported high emotional (87%), psychological (81%) and social well-being (65%), almost a third (30%) had experienced burnout.

The data show that residents were often at higher risk of experiencing negative psychological outcomes [e.g., burnout, depression (screening)] in addition to several behavioural and occupational indicators (e.g., eating unhealthily, dissatisfaction with work-life integration). In regard to gender, women were more likely to negatively experience occupational indicators (e.g., dissatisfaction with work-life integration, dissatisfaction with efficiency/resources, high presenteeism) and have negative psychological outcomes (e.g., burnout, depression (screening)). Conversely, men had a significantly higher likelihood of demonstrating negative behavioural factors (e.g., fewer sleep hours, more work hours, lack of personal primary care physician, increased alcohol consumption).



It should be mentioned that while some of these results may initially appear alarming, physicians tend to be physically healthier than the general population. For example, even though there is a lot of room for improvement when it comes to physical activity levels, our sample seems to compare well against the general population. Future research comparing the health and wellness of Canadian physicians to the general population and to other professions is recommended.

Finally, in the analyses of how psychological variables relate to behavioural and occupational indicators, results suggest strongly that career satisfaction and work-life integration are key predictors of all, or most, psychological variables respectively. Further, physical activity, healthy eating, and collegiality all demonstrated predictive significance across various psychological variables. Of particular note, presenteeism was also a consistent, moderate predictor of burnout, depression (screening) and recent suicidal ideation; collegiality demonstrated a similar result with less strength.

Our results support other work that points to the interconnectedness of lifestyle and work-related factors in influencing health in the medical community. The importance of addressing adverse outcomes in physician health cannot be overstated. Research has shown that physicians, by prioritizing their own personal healthy behaviours, can indirectly benefit their patients. There is also growing evidence

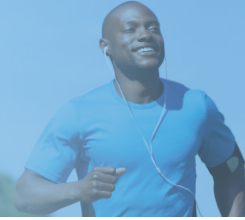
supporting the influence of occupational factors on physician health. The health and wellness of physicians must be recognized as a shared responsibility that is addressed by both individuals and the systems within which they work.

If meaningful, sustained improvements are to be achieved, the profession and other stakeholders will need to make deliberate commitments to reduce personal, cultural, and occupational barriers and to promote behaviours, practice, and conditions that optimize health and wellness. The CMA is committed to promoting a model of shared responsibility targeting individual and systemic factors that influence and contribute to health and wellness, through advocacy and collaboration.

CMA Statement on physician health and wellness

Individually targeted initiatives (e.g., resilience training) to promote physician health have been operationalized and notably effective. These initiatives should continue. However, results from the NPHS suggest that greater emphasis on reducing occupational stressors within the practice environment is needed.

Survey design and analytic methods



Medical residents and practicing physicians who were members of the CMA were eligible to respond to the survey.¹ A total of 34,517 members from all provinces and territories were contacted by email and invited to respond to the online survey using a secure platform.

The response rate was 8.5%, and this included 400 residents and 2,547 physicians. Although the respondent sample was generally representative of CMA membership, certain demographics (men, Quebec physicians and residents) were underrepresented relative to the Canadian physician population. Moreover, no residents and only a few physicians from PEI, Northwest Territories, Yukon or Nunavut responded to the survey.

Respondents were asked questions pertaining to a variety of behavioural, occupational and psychological variables. The scales used to assess psychological variables were carefully selected on the basis of several criteria including validity and reliability, among others.

Seven behavioural indicators (i.e., sleep hours, work hours, physical activity, healthy eating, personal primary care physician, alcohol consumption and other substance use) and six occupational indicators (i.e., collegiality, control/flexibility, efficiency/resources, work-life integration, career satisfaction and presenteeism) were measured. Descriptive statistics for the entire sample were generated and demographic differences were assessed. Only significant differences among groups of respondents are reported.² Behavioural and occupational indicators were also assessed for their predictability of the psychological variables.³ The assessment excluded work hours due to their high correlation with work-life integration.

Ethics approval was obtained from the University of Ottawa Research Ethics Board.

¹ A comprehensive overview of survey design on *CMA National Physician Health Survey. A National Snapshot, October 2018*.

² Significant between-group differences were assessed using chi-square tests of independence. When significant differences were found with more than two groups, post-hoc tests using Bonferroni correction were used to further define where these occurred, and odds ratios were generated.

³ Binomial logistic regression was used to identify behavioural and occupational predictors of burnout, depression, recent suicidal ideation, resilience, and social, emotional and psychological well-being. Work hours were excluded from regression analyses due to a high correlation with work-life integration, which could cause biased results.

Results

As noted above, descriptive statistics for behavioural, occupational and psychological factors are reported, as well as significant differences according to gender, practice area, practice setting, years in practice and

whether respondents were residents or practicing physicians. Further analyses investigated behavioural and occupational indicators to see if they could serve as predictors of psychological variables.

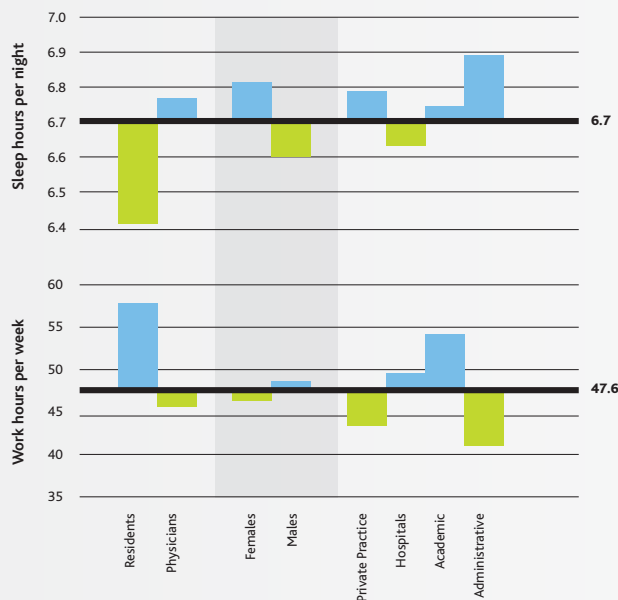
Behavioural indicators

Sleep hours

Respondents averaged 6.7 hours of sleep per night with residents reporting fewer hours (6.41) compared to physicians (6.76). Men slept less than women, and surgical specialists slept the least among specialists.

Those working in hospitals had less sleep than those in private practice, while physicians in practice for 31 or more years reported getting more sleep compared to all categories of physicians with less than 20 years of practice.

Hours of sleep per night and work hours per week across demographic groups



Data shown are statistically significant within their respective demographic analyses ($p < 0.001$) for both status and gender by t-test. Within practice setting only the comparison between Private Practice and Hospital is significant ($p < 0.05$ by ANOVA with Bonferroni post-hoc).

Data shown are statistically significant within their respective demographic analyses ($p < 0.001$, $p < 0.01$) for status and gender by t-test, respectively. Within practice setting all comparisons are significant ($p < 0.01$ by ANOVA with Bonferroni post-hoc) except that for Private Practice and Admin/Office.

■ Less than average
■ More than average
 Average (Physicians/Residents)

Work hours

Respondents worked an average of 48 hours a week, excluding on-call activities. Residents worked more weekly hours (58) than physicians (46), and men worked more hours (49) than women (47).

Among those working on-call, the average on-call hours were 111 a month.

Physical activity

Among survey participants, 51% were active and 48% were insufficiently active.⁴ Women had 1.3 times increased odds to be insufficiently active compared to men, and the same held true for physicians in practice for five or less years compared to all other practicing physicians.

Healthy eating

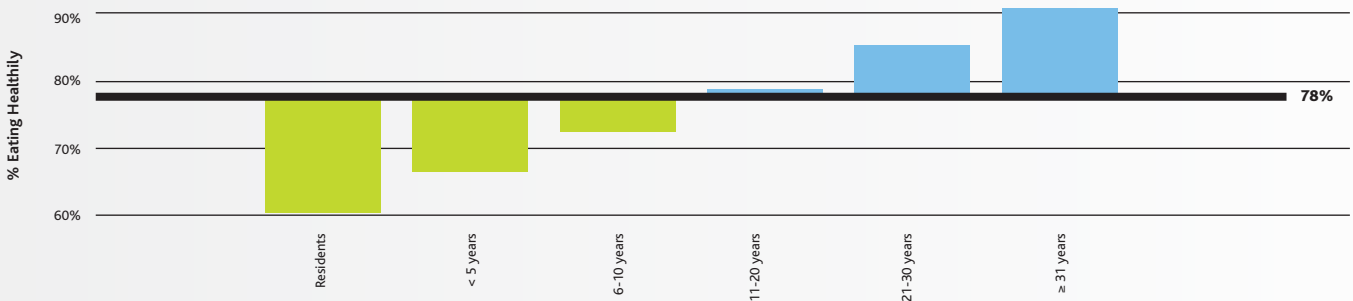
Over three-quarters of the sample generally ate healthily. Residents had 2.5 times increased odds to eat unhealthily than practicing physicians. Among

practicing physicians, those in practice longer tended to eat more healthily than those with fewer years.

Personal primary care physician

Almost one in five respondents (18%) indicated not having their own primary care physician. Residents and men had 1.9 times increased odds to not have one compared to practicing physicians and women respectively. Internal medicine specialists had 1.8 times increased odds to lack a personal physician compared to all other physicians while physicians in administrative roles had 6.5 times increased odds to report having one. Comparing years in practice, physicians in practice for five or fewer years had 1.6 times increased odds to lack their own physician while those with 31 or more years had 1.5 times increased odds to have one. Physicians working primarily in hospital settings had 1.4 times increased odds to lack a physician of their own, while those in private practice had 1.3 times increased odds to have one.

Healthy eating per years in practice



⁴ Percentages do not add to 100 due to non-response.

Alcohol consumption

On average, respondents reported consuming alcohol eight days in the previous month. On average, practicing physicians and residents reported drinking more than five drinks on a single occasion once in the span of two months. Overall, fewer than one in 10 respondents (7%) reported consuming more than 40 drinks a month, and men were more likely to do so than women. Those in practice 31 years or more had 2.4 times increased odds to consume more than 40 drinks in a month compared to all other years-in-practice categories.

Physicians practicing for five or fewer years had 1.4 times increased odds to indicate consuming no alcohol while women had 1.5 times increased odds to consume one to 10 drinks a month compared to men.

Other substances

Men were more than twice as likely to have used tobacco at some point in their lives, and those in practice 31 years or more had 1.8 times increased odds for having done so. A small minority of respondents, 4%, reported using stimulants to meet daily demands and this was more likely to occur among residents than practicing physicians. Among physicians, medical specialists had 1.8 times increased odds to have used stimulants.

Occupational indicators

Collegiality

This indicator was assessed using an overall score combining measures of colleague support, respect, cooperation and conflict resolution.

Among all respondents, only 13% experienced low collegiality. Surgical specialists had 2.1 times increased odds and physicians in practice from 11 to 20 years had 1.4 times increased odds to experience low collegiality. Conversely, those working in primary care had 1.7 times increased odds to experience high collegiality compared to those in other practice areas while those practicing 31 or more years and those in private practice had 1.4 times increased odds to experience high collegiality compared to their respective years-of-practice and practice setting counterparts.

Control and flexibility

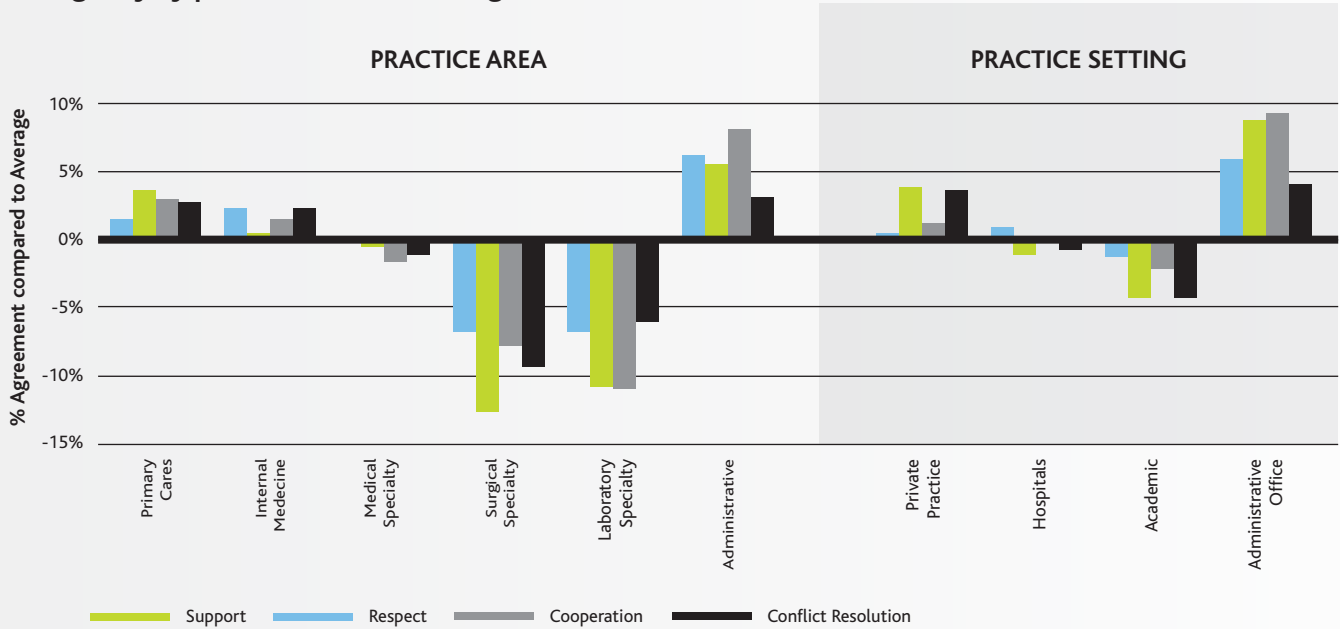
A large majority (72%) of respondents felt satisfied or very satisfied with the control and flexibility in their workplace. The most dissatisfied were residents who had 2.4 times increased odds to be dissatisfied on this

indicator compared to practicing physicians. Surgeons were also dissatisfied—almost at twice increased odds compared to other practice areas. When it came to practice settings, those in hospitals were at increased odds of being dissatisfied while the most satisfied groups were family physicians and those working in private offices or clinics.

Efficiency and resources

A small majority (53%) said they were dissatisfied or very dissatisfied with the efficiency and resources in their workplace. In this case, practicing physicians and women were more likely than residents and men to report dissatisfaction respectively. Considering practice areas, surgeons had 1.6 times increased odds to be dissatisfied/very dissatisfied while those in administrative positions had considerably increased odds—3.4 times—to be satisfied/very satisfied. When comparing years in practice, those in practice for 11 to 20 years had 1.4 times increased odds to report dissatisfaction, while those in practice 31 or more years had 1.7 times increased odds to be satisfied/very satisfied with work efficiency and resources.

Collegiality by practice area and setting



Work-life integration

Among respondents, 62% said they were either satisfied or very satisfied on this indicator with the rest reporting dissatisfaction. Residents and women reported dissatisfaction with work-life integration

more often than practicing physicians and men respectively. Those in practice for 11 to 20 years had 1.4 times increased odds to be dissatisfied/very dissatisfied while those in practice for 31 or more years had 2.3 times increased odds to be satisfied/very satisfied.

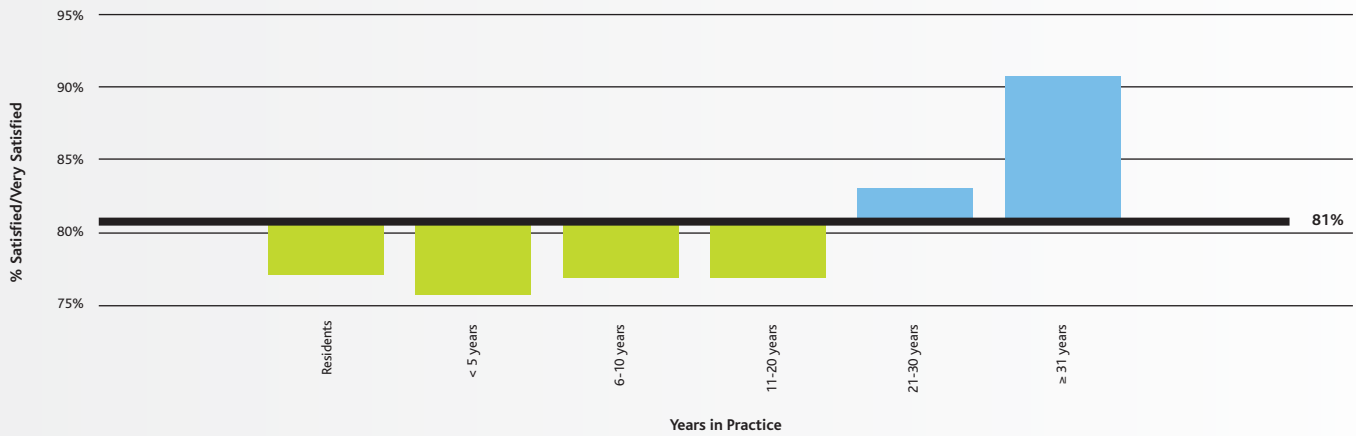


Career satisfaction

The vast majority of respondents (89%) reported satisfaction with their career in medicine. Those in practice 10 or fewer years were more likely to

experience dissatisfaction than other years-in-practice groups while those in practice 31 or more years had 2.7 times increased odds to be satisfied/very satisfied with their career.

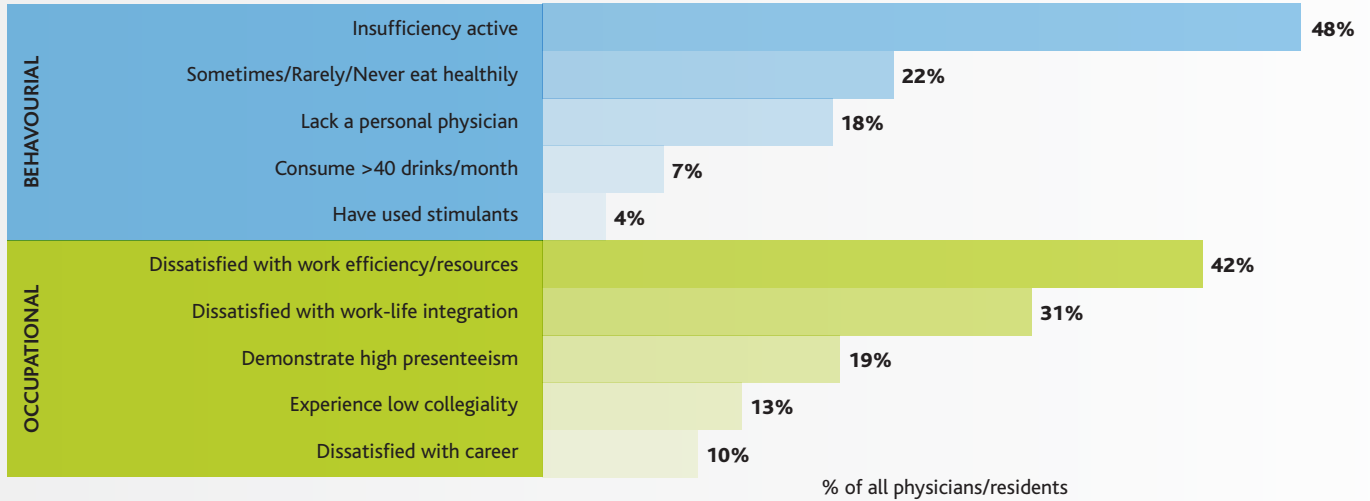
Career satisfaction per years in practice



Presenteeism

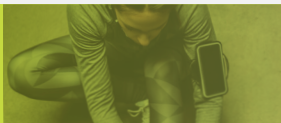
A majority of respondents reported going to work in the previous year when physically ill or distressed. About half (51%) of all respondents did this one to four times while 19% did it five or more times. Residents had a 1.5 times increased odds to report presenteeism five or more times during the year than did practicing physicians, who as a group were almost twice as likely to never work when ill or distressed. Women were more likely to go to work when ill or distressed than men. Those in practice for 10 or fewer years had increased odds of showing up to work one to four times when ill or distressed compared to other years-in-practice groups whereas those in practice for 31 or more years had 3.0 times increased odds to report zero presenteeism.

Overview of Indicator Prevalence



The graph above shows the percentage of those surveyed who reported undesirable levels for behavioural and occupational indicators. Close to half reported being inactive while about four in 10 are dissatisfied with efficiency and resources in the workplace. That said, only one in 10 reported career dissatisfaction. Below, we compare results for women and men, and residents and practicing physicians for both behavioural and occupational indicators.

Females



1.3x increased odds to have an insufficiently active lifestyle



1.5x increased odds to be dissatisfied with their work-life integration



1.3x increased odds to be dissatisfied with efficiency/resources in the workplace



1.5x increased odds to demonstrate high presenteeism

Males



1.9x increased odds to lack a personal physician



2.5x increased odds to consume more than 40 drinks in a month



2.3x increased odds to smoke tobacco



1.3x increased odds to disagree that colleagues are cooperative

Residents



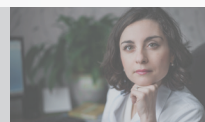
2.5x increased odds to rarely or never eat healthily



1.9x increased odds to lack a personal physician



2.7x increased odds to use stimulants



1.5x increased odds to demonstrate high presenteeism



1.3x increased odds to be dissatisfied with their work-life integration

Psychological variables and their predictors

Seven psychological variables were measured and then assessed for potential association with behavioral and occupational indicators.

Burnout

A high level of emotional exhaustion and/or depersonalization indicated overall burnout. Among all respondents, 30% were experiencing burnout. Those who reported eating unhealthily or alcohol binging⁵ had 1.5 times increased odds to experience burnout. Five of the six occupational indicators were predictors of burnout. Those experiencing low collegiality, dissatisfaction with work efficiency/resources, presenteeism, dissatisfaction with work-life integration and career dissatisfaction were predicted to experience burnout. Notably, those experiencing career dissatisfaction were 7.3 times more likely to experience burnout.

Depression (screening)

Based on survey responses, 34% of the sample screened positive for depression. Significant behavioural and occupational predictors of depression were eating unhealthily, low collegiality, dissatisfaction with work-life integration, career dissatisfaction and presenteeism.

Suicidal ideation

Eight percent reported having recent suicidal ideation, that is, in the past 12 months. Results showed that low collegiality, career dissatisfaction and high presenteeism (going to work five or more times in the previous year when physically ill or distressed) significantly predicted recent suicidal ideation.

Resilience

Resilience was defined as the ability to bounce back after difficulties and/or to adapt to changes. Of the sample, 82% reported high resiliency and 17% reported low resiliency. Low resilience was predicted by insufficient physical activity, eating unhealthily, dissatisfaction with work-life integration and career dissatisfaction.

Social well-being

High social well-being was reported by 65% of respondents whereas 29% rated themselves low on this variable. Those who reported being insufficiently active, not having a primary care physician, being dissatisfied with work-life integration as well as efficiency/resources and their careers, and of experiencing low collegiality were at increased risk of reporting low social well-being. Of note is the rather large predictive value of career dissatisfaction. Respondents who reported being dissatisfied/very dissatisfied with their career in medicine had 6.2 times increased odds to report low social well-being.

⁵ Consuming during a single occasion five or more alcoholic beverages

Psychological well-being

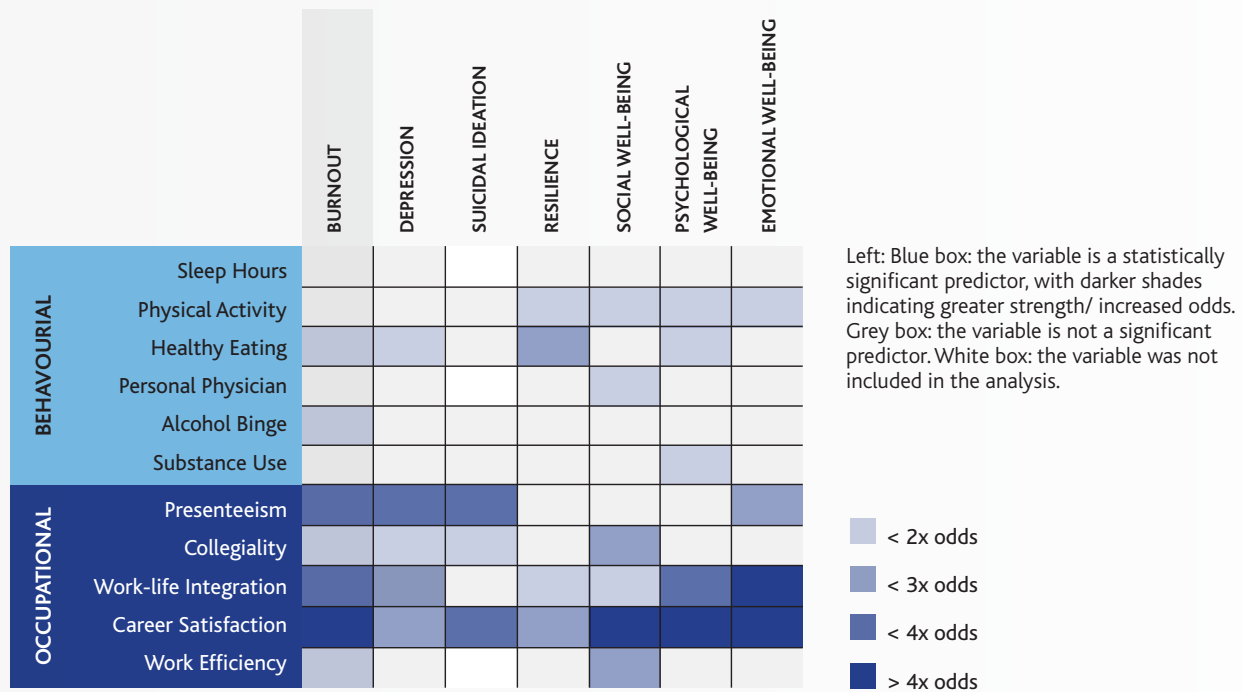
Four out of five respondents reported high psychological well-being with 13% rating themselves as low. Insufficient physical activity, unhealthy eating habits and substance use were the behavioural indicators associated with increased odds of low psychological well-being while the occupational predictors were dissatisfaction with work-life integration and career dissatisfaction. Again, career dissatisfaction is notable as those having reported being dissatisfied/very dissatisfied with their career in medicine had 4.4 times increased odds to report low psychological well-being.

Emotional well-being

A large majority of respondents reported experiencing high emotional well-being while fewer than one in ten ranked themselves low on this measure. Insufficient physical activity was the only behavioural predictor while three occupational ones were identified: high presenteeism, dissatisfaction with work-life integration and career dissatisfaction. As before, career dissatisfaction demonstrated high predictive capacity for this psychological variable as well with a 7.4 times increased odds.

Regression summary

The following graph shows the capacity of this survey’s behavioural and occupational indicators to serve as predictors of psychological variables.



Discussion



This report builds on the National Snapshot by providing descriptive statistics of the behavioural and occupational indicators assessed in the NPHS and identifying which of them significantly predict psychological outcomes [i.e., burnout, depression (screening), suicidal ideation, resilience and emotional, social and psychological well-being]. This allows for identifying actionable areas to target in order to support physician health and wellness.

The findings of our study are consistent with previous research among physicians and residents highlighting concerns regarding lifestyle and self-care. Our research shows that nearly half of practicing physicians and residents are not sufficiently active while close to a fifth do not regularly eat healthily nor do they have their own personal physician. While behavioural habits among our population may not be as problematic as the general population, there is room for improvement.

A few significant demographic differences are worthy of note. Physicians in their first five years of practice had increased odds of being insufficiently active, to eat unhealthily and to not have a personal physician. There are several challenges associated with transitional periods, such as when a student becomes a resident and a resident becomes a practicing physician, that may cause a physician's health to suffer. Some of these challenges include time spent adjusting to a new environment/system, increased workload, additional professional responsibilities/demands and stress.

It is important for physicians and residents to practice optimal self-care. By prioritizing their own health, physicians and residents will benefit themselves and quite possibly their patients as well. Physician role modelling of personal health habits may also have a positive influence on the health of the population at large.

That said, responsibility does not lie solely with individuals. Supportive work environments that consider workload, on-call duties and access to healthy food and exercise facilities are critical to physicians and residents adopting healthy behaviours. Positive change in behaviours requires that responsibility be assumed at both the individual and systems levels.

Examination of occupational factors is increasingly important given the growing evidence supporting their influence on physician health. Results from our study support the need to shift the training and practice culture to support improved physician self-care. Furthermore, our study's occupational indicator findings are consistent with other research that demonstrated work-life integration, career satisfaction and presenteeism having a significant impact on physician health, patient care, productivity and turnover.

It is increasingly recognized that the complex range of factors that contribute to health and wellness need to be addressed at both the individual and systemic levels. While initiatives targeted to individual physicians remain relevant, there needs to be a greater focus on occupational and system-level initiatives and collaboration between stakeholders and physicians to produce meaningful and sustainable change, in a model of shared responsibility.

CMA Statement on physician health and wellness

Overall, 53% of respondents were dissatisfied or very dissatisfied with the efficiency and resources in their workplace, over a third were dissatisfied or very dissatisfied with their work-life integration—with residents being at significantly increased odds — and almost one in five reported a relatively high level of presenteeism. Low overall levels of collegiality were experienced by 13% of respondents, and one in ten were dissatisfied with their careers.

Women also had increased odds of being dissatisfied with work-life integration, potentially attributable to increased childcare and household demands at home compared to male physicians. These after-work family and domestic responsibilities that women physicians often take on may contribute not only to dissatisfaction with work-life integration but to poor physician health as well. For instance, a recent study found that depressive symptoms significantly increased during residency for men and women; however, the rise in symptoms was greater for women, and work-life conflict accounted for this disparity.

Regarding career satisfaction, physicians in practice for five or less years and 6 to 10 years had increased odds of being dissatisfied with their career in medicine, while those in practice for 31 or more years were more satisfied. Our findings are in line with earlier findings among US physicians. Those findings showed that early-career physicians experienced the lowest career satisfaction, followed by middle-career physicians, who were also the most likely to leave the profession for reasons other than retirement. That later-career physicians had the highest career satisfaction was attributed to the fact that those who were dissatisfied had already left practice. Associated with career satisfaction were work hours, on-call hours, unrealistic expectations, practice setting, specialty and work-home conflict.

Our results for presenteeism are also of concern. Earlier work cites medical culture as the primary reason for physicians going to work when feeling unwell even though the vast majority believe doing so puts patients at risk.

Predictors of Psychological Variables



Regarding behavioural predictors, results showed that physical activity was a significant predictor for each of the positive psychological variables, whereby individuals who were insufficiently active were at increased odds for reporting lower resilience as well as lower social, psychological and emotional well-being. Healthy eating was also a significant predictor of many psychological variables, such that eating unhealthily increased the odds of experiencing burnout, depression (screening), low resilience and low psychological well-being.

Several occupational indicators predicted low scores on psychological variables, with the most consistent being career satisfaction, work-life integration and presenteeism. The strongest predictor for all psychological outcomes was career satisfaction, whereby those who were dissatisfied with their careers had increased odds of experiencing burnout, depression (screening), suicidal ideation in the past 12 months, low resilience and low social, psychological and emotional well-being.

The connection between occupational factors and physician health has also been made in previous studies. For instance, a 2015 cross-sectional study found that physicians experiencing burnout were less satisfied with their career, had less control over work and worked in a setting less likely to prioritize work-life integration.

As occupational factors are influenced by individuals, work units and a variety of organizations, the responsibility for these factors—and hence for the psychological influences on the health of practicing physicians and residents—must be recognized and shared.

Overall, the NPHS has identified behavioural and occupational factors influencing physician health and wellness. This is in line with previous work indicating that numerous factors contribute to poor physician health and further supports the need to address issues at all levels, individual and systemic. While both behavioural and occupational factors predicted psychological outcomes in physicians and residents, generally the occupational indicators were stronger predictors. Although some targeted initiatives to promote physician health are effective (e.g., resilience training), and efforts should continue, results from the NPHS suggest that greater emphasis to improve the occupational factors within the practice environment is needed. This further supports the recommendations found in the [CMA Policy on Physician Health](#), which calls on governments, employers and key stakeholders to collaborate and create more effective systems with supportive practice and training environments.

All stakeholders should be encouraged to adopt strategies and to use results from the NPHS to prioritize and inform initiatives that target both behavioural and occupational predictors of psychological variables, and in doing so, support the health and wellness of Canada's practicing physicians and residents.

Limitations

As with any research, there are constraints with our study. The scales used to assess the psychological variables were carefully selected for validity, reliability, use with physician populations, potential for comparatives and other criteria, but they are not without limitations. Second, although the respondent sample was generally representative of the CMA membership, certain

demographics were underrepresented relative to the Canadian physician population (e.g., males, Quebec physicians and residents). Moreover, no residents and relatively few practicing physicians from PEI, Northwest Territories, Yukon and Nunavut responded to the survey, and this may limit generalizability.



Conclusion

The strongest behavioural predictors of psychological variables are physical activity and healthy eating while the strongest occupational ones are career satisfaction, work-life integration and presenteeism. The results presented in this report suggest that coordinated efforts must be taken at individual and systems levels to support physician health and

wellness by addressing these behavioural and occupational predictors. While individual initiatives remain relevant, greater emphasis on reducing occupational stressors within the practice environment is required to strengthen physician health.

In the past, addressing physician health often focused on individual issues. Today, our understanding encompasses the complex range of individual, socio-cultural, occupational, and systemic factors and includes efforts to develop preventive measures and treatments to address these issues. This new understanding enables us to look at physician health more broadly to take into account, and seek to address, the array of factors that influence medical training and practice.

CMA Statement on physician health and wellness

