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# 2020 BC Cancer core medical staff work engagement and burnout survey

Addressing physician burnout at BC Cancer would improve the quality, safety, and efficiency of care, and enhance patient experience.

**ABSTRACT:** Physician burnout remains a significant threat to the viability of Canada's health care system. Between November 2019 and March 2020, an engagement and burnout survey was completed by BC Cancer oncology physicians (n = 258) and Canadian Association of Radiation Oncology members (n = 333). The survey completion rates for BC Cancer and the Canadian Association of Radiation Oncology were 62% and 72%, respectively. We used national Canadian Association of Radiation Oncology data as a contrasting benchmark to compare the level of engagement and burnout in BC to that

of national oncology staff. Eighty-eight percent of radiation oncologists, 77% of medical oncologists, and 41% of general practitioners in oncology had negative scores in at least one of the three burnout domains (exhaustion, cynicism, or inefficacy), and the full burnout syndrome (negative scores in all three domains) was recorded in 22% of BC oncology physicians, which was the highest in the country. BC Cancer oncology physicians reported the lowest work engagement in Canada and cited concerns about poor workplace efficiency, heavy workloads, lack of control and input into administrative policies, and impaired ability to provide high-quality care. A prevalent attitude of "excellent collegial atmosphere" and willingness to "try something new," partnered with an engaged administration, might enable the development of strategies to improve the well-being of the oncology physician workforce, and consequently the delivery of cancer care in BC.

and survivorship, and comprehensive basic and clinical research.<sup>1</sup>

Due to the increasing incidence and prevalence of cancer, coupled with an aging population and treatment advances,<sup>2</sup> caseload and complexity in oncology are increasing at a rapid rate. In addition to mounting administrative tasks and the introduction of quality assurance programs<sup>3</sup> and new electronic health record systems,<sup>4</sup> which all physicians must address, the frequent exposure to death and suffering and the daily responsibility of administering and overseeing toxic therapies with narrow therapeutic ratios are specific factors contributing to burnout in oncology.<sup>5,6</sup> Despite these issues, over the last decade, the core staff full-time equivalent (FTE) funding at BC Cancer has disproportionately lagged behind the needs for cancer care in BC. Because a 2018 Canadian Medical Association national survey showed that physician health remains a significant threat to the viability of Canada's health care system,<sup>7</sup> we conducted a survey of BC Cancer physicians to determine the current level of workplace engagement and burnout. The survey was conducted in parallel with a survey of Canadian Association of Radiation Oncology members. We used national data as a benchmark to compare the level of engagement and burnout of radiation oncology staff in BC with that in other provinces. We postulated that comparing the oncology work environment across Canada with that in BC would provide

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**B**C Cancer is a provincial, publicly funded, population-based cancer treatment and research organization operating under the umbrella of the Provincial Health Services Authority. It serves 5.1 million residents of BC and Yukon through six regional multidisciplinary, comprehensive cancer clinics: Vancouver, Victoria, Surrey, Kelowna, Abbotsford, and Prince George. The BC Cancer mandate covers the full spectrum of cancer care, including prevention, screening, diagnosis, and treatment, through to rehabilitation

a more meaningful interpretation of results from the BC survey.

**Methods**

The BC Cancer Medical Staff Engagement Society, a Facility Engagement initiative, and the Canadian Association of Radiation Oncology funded the study, and the UBC BC Cancer Research Ethics Board approved it. Between November 2019 and March 2020 (before COVID-19), we sent a web-based consent form and survey questionnaire (using SurveyMonkey) to the entire membership of the Canadian Association of Radiation Oncology (used as a representative of a cohesive national oncology

**71.6% of BC Cancer physicians versus 33.7% of radiation oncologists from other provinces felt that there were not enough physicians to meet workload demands.**

group), which includes 333 radiation oncologists working in 49 centres across Canada. The survey was administered through the national Canadian Association of Radiation Oncology office. At the same time, the survey was emailed to all 456 members of the BC Cancer Medical Staff Engagement Society through the Society’s administrative office. Because 198 BC Cancer physicians are engaged in work that is not exclusive to oncology (e.g., respirologists, dentists, gastroenterologists, general surgeons, gynecologists), they were excluded from the analysis. This resulted in a target population of 258 BC Cancer oncology physicians, which included 87 radiation oncologists, 116 medical oncologists, and 55 general practitioners in oncology.

The 84-question survey included the formal Maslach Burnout Inventory,<sup>8</sup> as well as demographic, work-life balance, career satisfaction, job engagement, and specialty-specific questions. Most questions allowed responses that could be quantified using the Likert scale: “strongly agree,” “agree,” “neither agree nor disagree,” “disagree,” or “strongly disagree.”

**TABLE 1. Multivariable analysis of factors associated with medical oncologist and radiation oncologist burnout for BC Cancer. Since comparisons are made to radiation oncologists in other Canadian provinces, BC Cancer general practitioners in oncology are excluded.**

|  | Odds ratio | 95% CI       | P value |
|--|------------|--------------|---------|
| <b>Have you considered leaving your institution to work elsewhere?</b> |            |              |         |
| Yes vs no  | 8.811      | 3.304-23.496 | < .0001 |
| <b>Have you considered reducing your full-time equivalent (FTE)?</b>   |            |              |         |
| Yes vs no  | 2.238      | 0.945-5.302  | 0.0670  |
| <b>Province</b>  |            |              |         |
| BC vs Ontario  | 0.822      | 0.328-2.059  | 0.1169  |
| Alberta vs Ontario   | 1.106      | 0.241-5.064  | 0.1490  |
| Quebec vs Ontario  | 0.245      | 0.048-1.251  | 0.3278  |
| Other vs Ontario   | 0.094      | 0.011-0.801  | 0.0614  |
| <b>FTE distribution</b>  |            |              |         |
| Clinical and administrative 20% to 50% vs mostly clinical FTE          | 0.370      | 0.095-1.435  | 0.9605  |
| Clinical and administrative > 50% vs mostly clinical FTE               | N/A        | N/A          | N/A     |
| Clinical and research 20% to 50% vs mostly clinical FTE                | 0.395      | 0.112-1.398  | 0.9593  |
| Clinical and research > 50% vs mostly clinical FTE                     | 0.223      | 0.024-2.070  | 0.9695  |
| <b>Hours/week spent at home on work tasks</b>                          |            |              |         |
| < 5 vs no additional hours   | 0.282      | 0.018-4.413  | 0.2551  |
| 5–10 vs no additional hours  | 0.485      | 0.040-5.919  | 0.6652  |
| > 10 vs no additional hours  | 0.888      | 0.068-11.577 | 0.3941  |
| <b>Age</b>   |            |              |         |
| 35–45 vs < 35  | 3.070      | 0.528-17.856 | 0.9542  |
| 46–55 vs < 35  | 1.807      | 0.299-10.932 | 0.9613  |
| 56–65 vs < 35  | 0.341      | 0.019-6.030  | 0.9835  |
| > 65 vs < 35   | N/A        | N/A          | N/A     |
| <b>Children</b>  |            |              |         |
| Any children vs none   | 0.689      | 0.213-2.231  | 0.5343  |
| <b>Years in practice</b>   |            |              |         |
| 6–10 vs ≤ 5  | 0.525      | 0.144-1.919  | 0.9561  |
| 11–20 vs ≤ 5   | 1.313      | 0.296-5.819  | 0.9359  |
| 21–25 vs ≤ 5   | 0.327      | 0.023-4.595  | 0.9665  |
| > 25 vs ≤ 5  | N/A        | N/A          | N/A     |
| <b>FTE</b>   |            |              |         |
| Full-time vs part-time   | 1.584      | 0.403-6.233  | 0.5102  |
| <b>Gender</b>  |            |              |         |
| Male vs female   | 1.540      | 0.595-3.986  | 0.9829  |
| Other vs female  | N/A        | N/A          | N/A     |
| <b>Marital status</b>  |            |              |         |
| Living common-law vs single, never married                             | 0.917      | 0.086-9.776  | 0.9540  |
| Married vs single, never married                                       | 0.547      | 0.054-5.546  | 0.9935  |
| Separated/divorced vs single, never married                            | N/A        | N/A          | N/A     |
| Widowed vs single, never married                                       | N/A        | N/A          | N/A     |

The Maslach Burnout Inventory aligns with the World Health Organization’s 2019 definition of burnout as a legitimate occupational phenomenon.<sup>9</sup> Three dimensions characterize burnout: (1) feelings of energy depletion or exhaustion, (2) increased mental distance from one’s job, or feelings of negativism or cynicism related to one’s job, and (3) reduced professional efficacy. The Maslach Burnout Inventory yields three scores for each respondent: exhaustion, cynicism, and professional efficacy. These terms from the Maslach Burnout Inventory–General Survey are parallel to the terms emotional exhaustion,

depersonalization, and personal accomplishment in the Maslach Burnout Inventory–Human Services Survey, which we used. There is a continuum of frequency scores, from more positive to more negative, rather than arbitrary dividing points between “present” and “absent.” The *Maslach Burnout Inventory Manual* (4th edition) recommends analyzing subscores on a continuous spectrum.<sup>8</sup> To facilitate comparisons across previously published studies, the most commonly used Maslach Burnout Inventory cutoff scores are 27 or greater for high emotional exhaustion, 10 or greater for high depersonalization, and 33 or less for low

personal accomplishment.<sup>8,10</sup> Negative scores on all three dimensions indicate a “burnout profile.” In order to compare our results with those of other studies, we contrasted the incidence of burnout reported by others with the incidence of physicians who are “overextended/disengaged” (high scores in the domains of exhaustion and/or cynicism).<sup>6,11-13</sup>

Logistic regression analysis was performed on a single variable representing burnout as a function of the covariates listed in Table 1. The resulting odds ratios represent the increased risk of burnout for a given physician. Backward selection was used to remove variables

**TABLE 2.** Demographics for BC Cancer.

|                             | All          | Radiation oncologist | Medical oncologist | General practitioner in oncology | Other       |
|-----------------------------|--------------|----------------------|--------------------|----------------------------------|-------------|
| <b>Number of responders</b> | 160          | 67                   | 52                 | 27                               | 14          |
| <b>Age (years)</b>          |              |                      |                    |                                  |             |
| < 35                        | 13 (8.13%)   | 6 (8.96%)            | 4 (7.69%)          | 2 (7.41%)                        | 1 (7.14%)   |
| 35–45                       | 63 (39.38%)  | 33 (49.25%)          | 20 (38.46%)        | 6 (22.22%)                       | 4 (28.57%)  |
| 46–55                       | 57 (35.63%)  | 18 (26.87%)          | 21 (40.38%)        | 13 (48.15%)                      | 5 (35.71%)  |
| 56–65                       | 25 (15.63%)  | 10 (14.93%)          | 7 (13.46%)         | 4 (14.81%)                       | 4 (28.57%)  |
| > 65                        | 2 (1.25%)    | –                    | –                  | 2 (7.41%)                        | –           |
| <b>Years in practice</b>    |              |                      |                    |                                  |             |
| < 5                         | 34 (21.25%)  | 17 (25.37%)          | 12 (23.08%)        | 2 (7.41%)                        | 3 (21.43%)  |
| 6–10                        | 34 (21.25%)  | 17 (25.37%)          | 13 (25.00%)        | 2 (7.41%)                        | 2 (14.29%)  |
| 11–20                       | 52 (32.50%)  | 19 (28.36%)          | 19 (36.54%)        | 10 (37.04%)                      | 4 (28.57%)  |
| 21–25                       | 23 (14.38%)  | 8 (11.94%)           | 6 (11.54%)         | 7 (25.93%)                       | 2 (14.29%)  |
| > 25                        | 17 (10.63%)  | 6 (8.96%)            | 2 (3.85%)          | 6 (22.22%)                       | 3 (21.43%)  |
| <b>Gender</b>               |              |                      |                    |                                  |             |
| Female                      | 88 (55.00%)  | 27 (40.30%)          | 35 (67.31%)        | 18 (66.67%)                      | 8 (57.14%)  |
| Male                        | 72 (45.00%)  | 40 (59.70%)          | 17 (32.69%)        | 9 (33.33%)                       | 6 (42.86%)  |
| Other                       | –            | –                    | –                  | –                                | –           |
| <b>Marital status</b>       |              |                      |                    |                                  |             |
| Single, never married       | 8 (5.00%)    | 3 (4.48%)            | 4 (7.69%)          | 1 (3.70%)                        | –           |
| Living common-law           | 16 (10.00%)  | 9 (13.43%)           | 4 (7.69%)          | 2 (7.41%)                        | 1 (7.14%)   |
| Married                     | 128 (80.00%) | 54 (80.60%)          | 43 (82.69%)        | 21 (77.78%)                      | 10 (71.43%) |
| Separated/divorced          | 7 (4.38%)    | 1 (1.49%)            | 1 (1.92%)          | 3 (11.11%)                       | 2 (14.29%)  |
| Widowed                     | 1 (0.63%)    | –                    | –                  | –                                | 1 (7.14%)   |

Table continued on page 307

**TABLE 2** (continued from page 306). Demographics for BC Cancer.

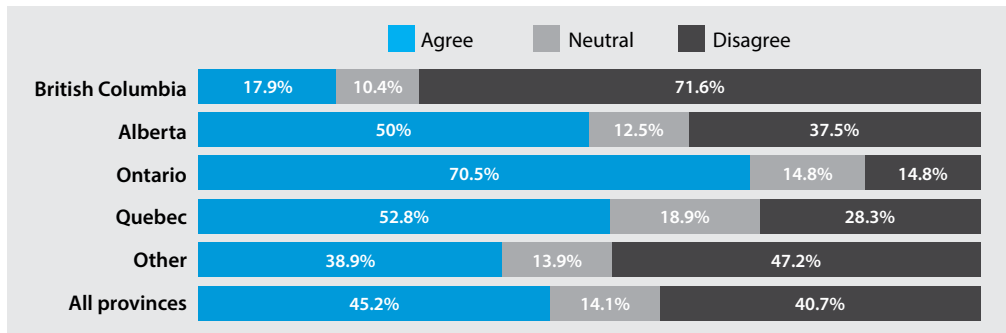
|   | All          | Radiation oncologist | Medical oncologist | General practitioner in oncology | Other       |
|---|--------------|----------------------|--------------------|----------------------------------|-------------|
| <b>Children</b>                                       |              |                      |                    |                                  |             |
| Age < 6 years   | 39 (24.38%)  | 19 (28.36%)          | 15 (28.85%)        | 2 (7.41%)                        | 3 (21.43%)  |
| Age 6–18 years  | 75 (46.88%)  | 32 (47.76%)          | 25 (48.08%)        | 10 (37.04%)                      | 8 (57.14%)  |
| Age > 18 years  | 41 (25.63%)  | 16 (23.88%)          | 8 (15.38%)         | 14 (51.85%)                      | 3 (21.43%)  |
| No children   | 28 (17.50%)  | 11 (16.42%)          | 11 (21.15%)        | 3 (11.11%)                       | 3 (21.43%)  |
| <b>Full-time equivalent (FTE)</b>                     |              |                      |                    |                                  |             |
| Part-time   | 49 (30.63%)  | 13 (19.40%)          | 16 (30.77%)        | 13 (48.15%)                      | 7 (50.00%)  |
| Full-time   | 111 (69.38%) | 54 (80.60%)          | 36 (69.23%)        | 14 (51.85%)                      | 7 (50.00%)  |
| <b>FTE distribution</b>                               |              |                      |                    |                                  |             |
| Mostly clinical                                       | 123 (76.88%) | 58 (86.57%)          | 28 (53.85%)        | 26 (96.30%)                      | 11 (78.57%) |
| Clinical and administrative 20%–50%                   | 20 (12.50%)  | 5 (7.46%)            | 12 (23.08%)        | 1 (3.70%)                        | 2 (14.29%)  |
| Clinical and administrative > 50%                     | 7 (4.38%)    | 2 (2.99%)            | 5 (9.62%)          | –                                | –           |
| Clinical and research 20%–50%                         | 7 (4.38%)    | 2 (2.99%)            | 4 (7.69%)          | –                                | 1 (7.14%)   |
| Clinical and research > 50%                           | 3 (1.88%)    | –                    | 3 (5.77%)          | –                                | –           |
| <b>Nonworking lunch or other break during the day</b> |              |                      |                    |                                  |             |
| Daily   | 5 (3.13%)    | 1 (1.49%)            | 1 (1.92%)          | 1 (3.70%)                        | 2 (14.29%)  |
| Regularly: a few breaks per week                      | 14 (8.75%)   | 5 (7.46%)            | 5 (9.62%)          | 3 (11.11%)                       | 1 (7.14%)   |
| Occasionally: once a week                             | 18 (11.25%)  | 6 (8.96%)            | 7 (13.46%)         | 1 (3.70%)                        | 4 (28.57%)  |
| Rarely: once in a few weeks                           | 33 (20.63%)  | 14 (20.90%)          | 10 (19.23%)        | 7 (25.93%)                       | 2 (14.29%)  |
| Almost never  | 90 (56.25%)  | 41 (61.19%)          | 29 (55.77%)        | 15 (55.56%)                      | 5 (35.71%)  |
| <b>Exercise</b>                                       |              |                      |                    |                                  |             |
| Daily   | 37 (23.13%)  | 12 (17.91%)          | 13 (25.00%)        | 7 (25.93%)                       | 5 (35.71%)  |
| Regularly: a few times a week                         | 61 (38.13%)  | 25 (37.31%)          | 22 (42.31%)        | 10 (37.04%)                      | 4 (28.57%)  |
| Occasionally: once a week                             | 31 (19.38%)  | 13 (19.40%)          | 7 (13.46%)         | 9 (33.33%)                       | 2 (14.29%)  |
| Rarely: once in a few weeks                           | 13 (8.13%)   | 5 (7.46%)            | 5 (9.62%)          | –                                | 3 (21.43%)  |
| Almost never  | 18 (11.25%)  | 12 (17.91%)          | 5 (9.62%)          | 1 (3.70%)                        | –           |

that were not significant or were no longer significant when controlling for the other variables of interest. Chi-square tests of association were conducted to determine if there were any relationships between the provinces and the distribution of responses to each question. All analyses were conducted using SAS software (version 9; SAS Institute, Cary, NC).

## Results

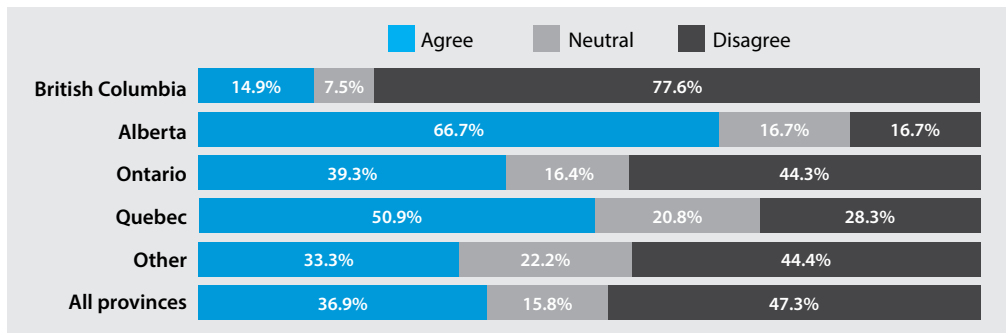
In total, 337 physicians across Canada completed the questionnaire. In BC, 160 of 258 (62%) BC Cancer oncology physicians completed the questionnaire. Seventy-seven percent (67/87) of radiation oncologists, 45% (52/116) of medical oncologists, and 49% (27/55) of general practitioners in oncology completed it; 14 other specialists affiliated

with BC Cancer who completed the questionnaire were excluded from the analysis. The demographics are provided in **Table 2**. In total, 241 of 333 (72%) radiation oncologists in the Canadian Association of Radiation Oncology completed the questionnaire, including 67 in BC, 24 in Alberta, 11 in Manitoba, 10 in Saskatchewan, 61 in Ontario, 53 in Quebec, 9 in Nova Scotia, and 6 in New Brunswick.



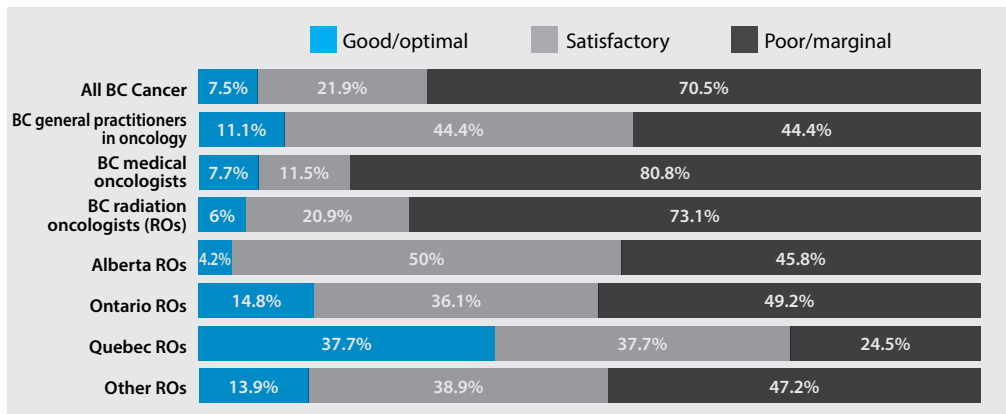
**FIGURE 1.** We have an adequate number of radiation oncologists to meet the workload demand.

Chi-square test for radiation oncologists,  $P < .0001$



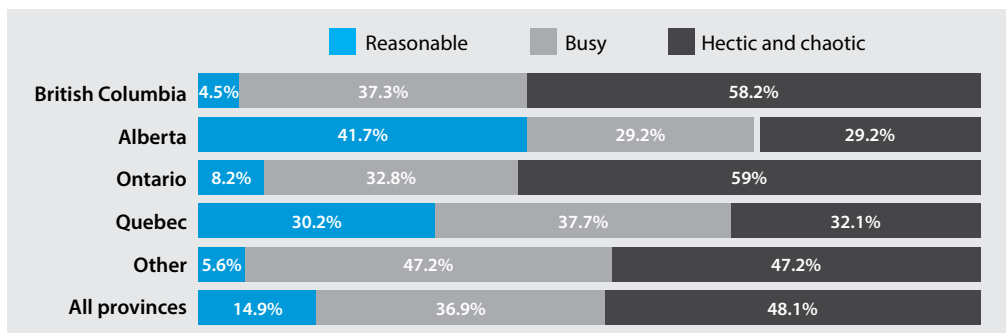
**FIGURE 2.** I have enough time to complete all necessary documentation.

Chi-square test for radiation oncologists,  $P < .0001$



**FIGURE 3.** The degree to which my workload is...

Chi-square test for radiation oncologists,  $P < .0001$



**FIGURE 4.** Which best describes the atmosphere in your primary work area?

Chi-square test for radiation oncologists,  $P < .0001$

**Work engagement**

Work engagement of BC oncology physicians was directly compared with that of radiation oncologists across the country: 71.6% of BC Cancer physicians versus 33.7% of radiation oncologists from other provinces felt that there were not enough physicians to meet workload demands [Figure 1]. BC Cancer oncologists also reported that they did not have enough time to complete necessary clinical documentation [Figure 2], their workplace efficiency was poor [Figure 3], and their work atmosphere was mostly hectic and chaotic [Figure 4]; these results were significantly different from those for radiation oncologists across the country (all  $P < .0001$ ).

Fewer oncologists in BC than in other Canadian provinces, except for Alberta and Ontario, felt they had input into administrative policies [Figure 5]. Fewer oncologists in BC also had a sense of control over their work environment compared with those in other provinces [Figure 6]. When asked if it is possible to provide high-quality care for all patients, only 27% of BC medical oncologists agreed and 52% of BC, 63% of Alberta, 54% of Ontario, and 93% of Quebec radiation oncologists agreed [Figure 7]. The difference between groups was statically significant (all  $P < .0002$ ).

Only 3% of core BC Cancer physicians had the time to eat lunch at work every day, while more than 80% “almost never” or “once in a few weeks” had the time for lunch [Table 2]. Moreover, 70% reported poor work-life balance, which was similar across the country [Figure 8] ( $P = .23$ ); 46% and 40% of BC Cancer oncologists reported spending an additional 5 to 10 hours or more than 10 hours, respectively, working outside of paid work hours. Additionally, 51% of BC Cancer physicians had considered leaving BC, and 56% considered a reduction in FTE compared with 40% and 51% nationally.

BC Cancer physicians scored higher than radiation oncologists in other provinces in terms of having a supportive network of colleagues ( $P = .03$ ) [Figure 9]. Similarly, a high proportion of all BC Cancer physicians (94%) reported that they were willing to “try something new.” The study participants most commonly cited four changes that were perceived to improve their work environment: more support staff

at work (nurses, medical office assistants, radiation therapists), more efficient care models, more resources available for patients (e.g., timely imaging, more radiation therapy and medical physicist human resources), and lighter workload.

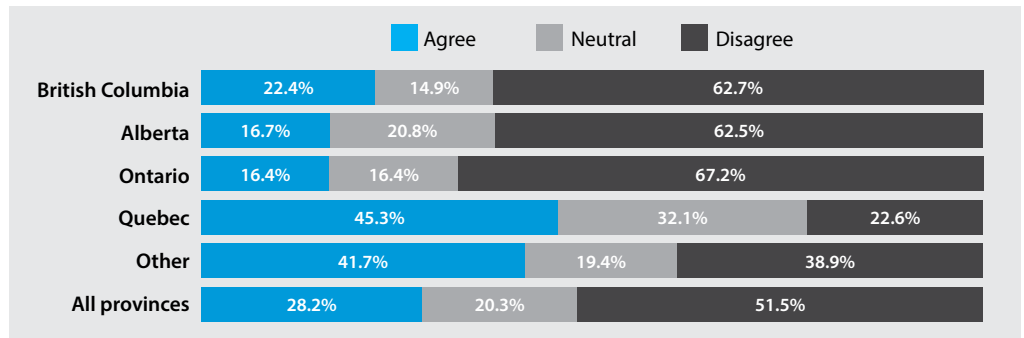
**Burnout**

Burnout rates of BC oncology physicians were directly compared with those of radiation oncologists across the country. BC reported the lowest engagement and highest burnout among oncologists compared with radiation oncologists

**BC Cancer physicians scored higher than radiation oncologists in other provinces in terms of having a supportive network of colleagues.**

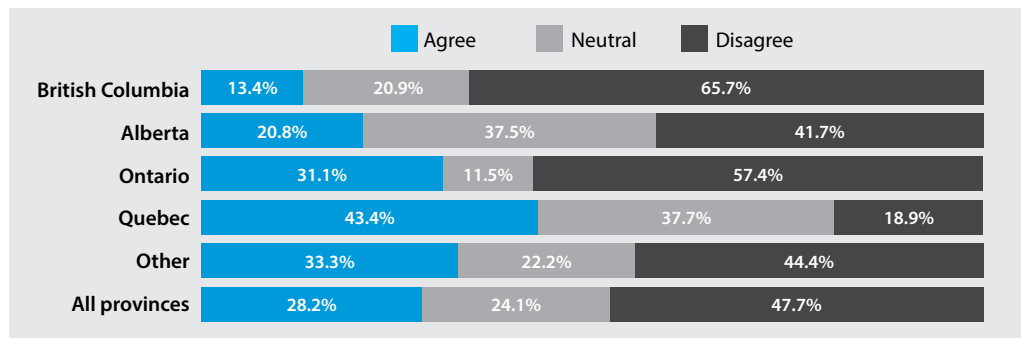
in other provinces [Figure 10]. The Maslach Burnout Inventory showed that only 12% of BC Cancer radiation oncologists and 23% of BC Cancer medical oncologists felt fully engaged in the workplace; 15% and 17%, respectively, felt cynical; 22% and 11%, respectively, were exhausted; and 29% (both BC Cancer medical oncologists and radiation oncologists) felt low professional accomplishment. Most notably, 22% and 19%, respectively, reported the full burnout syndrome (exhaustion, cynicism, and low accomplishment). In order to compare our results with those of other studies, we contrasted burnout as reported by other studies<sup>6,11-13</sup> with physicians who were “overextended/disengaged”<sup>14</sup> (high scores in the domains of exhaustion and/or cynicism); 59% of BC Cancer radiation oncologists and 47% of BC Cancer medical oncologists met the definition of “overextended/disengaged,” reported as “burned out” in other reports. General practitioners in oncology were the most engaged (50%) of all physician groups. None had the full burnout syndrome, but 19% were exhausted.

Overall, 88% of BC Cancer radiation oncologists, 77% of medical oncologists, and 41% of the general practitioners in oncology had



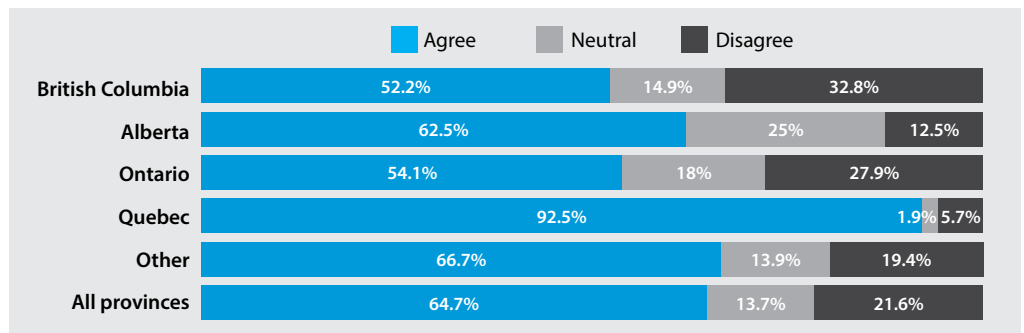
**FIGURE 5.** I have input into administration policies that affect my work as a physician and the health care needs of my patients.

Chi-square test for radiation oncologists,  $P < .0001$



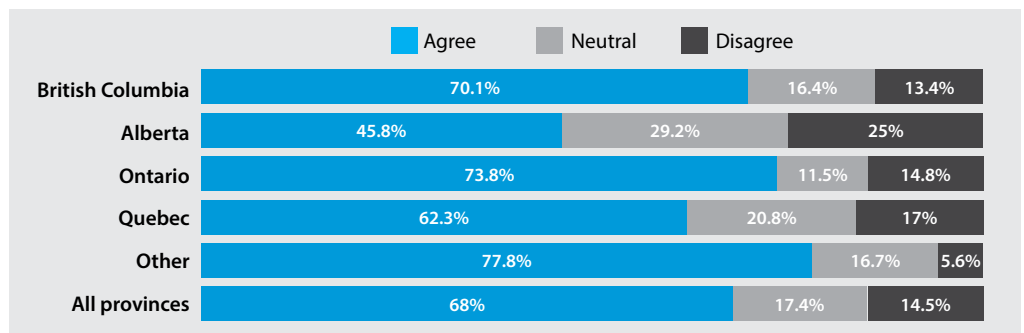
**FIGURE 6.** I feel that I am in control of my environment as it relates to patient care.

Chi-square test for radiation oncologists,  $P < .0002$



**FIGURE 7.** It is possible to provide high-quality care to all of my patients.

Chi-square test for radiation oncologists,  $P < .0001$



**FIGURE 8.** I have so much work to do on the job that it takes me away from my personal interests.

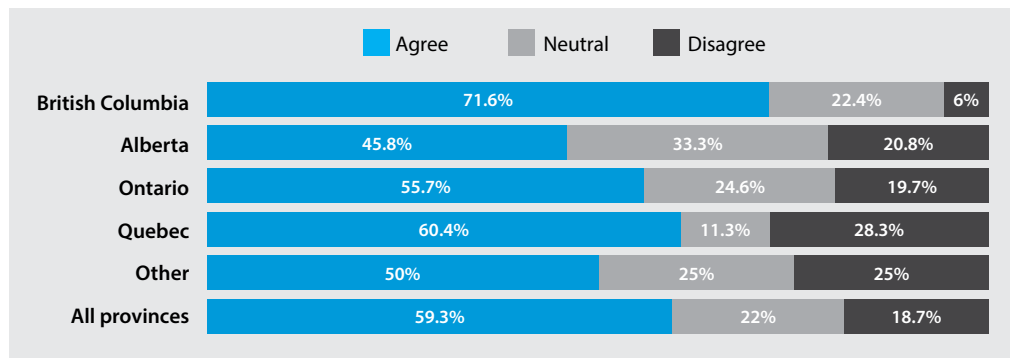
Chi-square test for radiation oncologists,  $P < .2349$

negative scores in at least one of the three burnout domains. Based on multivariate analysis, answering “yes” to either of the questions “Have you considered leaving your institution to work elsewhere?” and “Have you considered reducing your FTE?” were the only predictive factors for burnout [Table 1].

**Discussion**

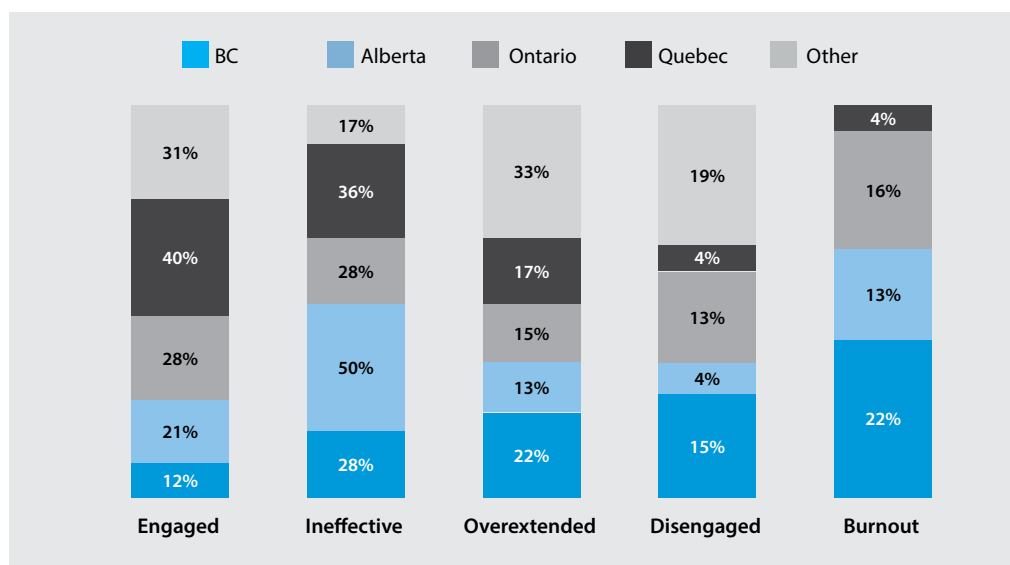
The term “burnout” describes a fundamental disconnect between the worker and workplace. Engagement and burnout are the opposite ends of a relationship that one has with their work environment. Engaged physicians have vigor and dedication and are absorbed in their work. Burned-out physicians have depleted energy and exhaustion, increased mental distance from their job, feelings of negativism or cynicism, and reduced professional efficacy. Physician burnout puts organizations at a risk of increased medical error, staff turnover, higher costs, and lower quality of care and patient satisfaction. Physicians are at risk of loss of professionalism, shortened life expectancy, cardiovascular disease, chronic fatigue, cognitive dysfunction, personal life disruption, and mental health issues such as substance use disorder, depression, and suicide.<sup>15-21</sup> It is estimated that 30% to 50% of practising physicians suffer from burnout.<sup>20,22</sup> Burnout is primarily a system-level problem driven by excess job demands and inadequate resources and support, rather than an individual-level problem triggered by personal limitations and lack of resilience.<sup>18,23,24</sup> A recent study noted that physicians are more resilient than the general US workforce, yet 30% of physicians in the top resilience category are burned out.<sup>25</sup>

“Burnout” has become a popular umbrella term for whatever distresses people in their work.<sup>26</sup> Recently published studies consider each of the three dimensions of the Maslach Burnout Inventory as “symptoms” of burnout (high scores in the domains of exhaustion or cynicism). This implies that a negative score for any of these symptoms constitutes burnout and implicitly proposes a new definition of burnout.<sup>6,11-13</sup> While negative scores in any of the Maslach Burnout Inventory domains points to a challenging relationship with a workplace, this cannot be considered as a burnout syndrome.<sup>8,26</sup>



**FIGURE 9.** I am a member of a supportive network of colleagues.

Chi-square test for radiation oncologists, *P* < .0312



**FIGURE 10.** Engagement burnout among radiation oncologists across Canada.

For example, exhaustion alone is a much more straightforward problem to address because it primarily requires improving the balance of demands (e.g., caseload, paperwork, administration) with resources at work or outside of work (e.g., opportunities for rest and recovery). In contrast, addressing burnout also requires contending with cynicism and inefficacy, both of which reduce one’s openness to interventions. Burned-out physicians have negative scores in all three domains and may need professional help to reintegrate into the workplace.<sup>27</sup>

Approximately half of BC Cancer oncologists met the definition of overextended/disengaged. Using the same overextended/disengaged profile, Shanafelt and colleagues reported that 45% of US oncologists surveyed

between October 2012 and March 2013 (n = 1490) were burned out.<sup>5</sup> Furthermore, 73% of 362 oncologists (medical oncologists, radiation oncologists, surgical oncologists, and hematologists) in Ontario who were surveyed in 2019 were burned out; 78% of them felt that the health care system did not enable them to work to the best of their ability.<sup>13</sup> Significant drivers of burnout in that study included a hectic or chaotic atmosphere, feeling underappreciated, having poor or marginal control over workload, and not being comfortable speaking with peers about workplace stress. The study included a large number of surgical oncologists and did not explicitly provide separate data for the 68 radiation oncologists and the 97 medical oncologists who were surveyed. In addition, the

study used a different definition of burnout, which precludes direct comparison with the BC study.

Compared with radiation oncologists working in other provinces, BC Cancer oncologists had the highest levels of disengagement and burnout in the country (1 out of 5). BC Cancer oncologists reported serious issues with well-being, excessive workload, and work environment inefficiencies. Moreover, they had a negative perception of their professional autonomy, issues with access to resources, and decreased engagement, which resulted in a loss of confidence in their capacity to have a meaningful impact at work.

While pursuit of the triple aim in health care—improved population health, improved patient experience, and reduced per capita costs—is an established goal, a blueprint for the quadruple aim incorporates “improved well-being and engagement of clinicians and staff” as the fourth pillar of this vision.<sup>28</sup> Eight key work–life domains that directly contribute to this pillar are workload and efficiency, flexibility and control over work, reward, community and social support networks, fairness, alignment of individual and organizational values and organizational culture, work–life integration, and meaning at work.<sup>19,29,30</sup> The steps to achieving engagement are detailed in the Mayo Clinic’s professional fulfillment model. The strategy requires the commitment of leadership to promote a “culture of wellness,” changing the system to improve the “efficiency of practice,” and supporting individuals as they build “personal resilience.”<sup>31,32</sup> Epstein and Privitera advise reducing demands: “The approach to many well-meaning but overwhelming total expectations on clinicians, many that are in the name of patient safety, must be looked [at] through the lens of considering what is humanly possible to do without then paradoxically risking patient safety by creating conditions that increase risk of error and burnout.”<sup>31</sup> In the recently published “Physician Well-being 2.0,” Shanafelt outlines a 20-year summary of the physician occupational distress journey. He provides a clear professional, organizational, and individual path that is necessary to accelerate transformation of the system and medical culture.<sup>33,34</sup>

We live in a challenging time for health care systems. Even before the COVID-19 pandemic, health care leaders faced many external pressures, including financial demands, large capital expenditures, more frequent mergers and consolidations, implementation of new technologies and information systems, and application of quality metrics.<sup>26,27</sup> However, focusing attention on external factors only can blind the system to internal factors that threaten organizational

**Physician burnout puts organizations at a risk of increased medical error, staff turnover, higher costs, and lower quality of care and patient satisfaction.**

health. It is important to note that our survey was conducted prior to the COVID-19 pandemic. The pandemic and recent implementation of a new electronic health record system in the BC Cancer – Vancouver centre have put additional pressures on staff. Physician burnout within an organization may be subtle and may go unnoticed for a period, only to surface as a challenge without a rapid or obvious resolution. Successfully navigating external and internal pressures requires conscious leadership partnered with fully engaged physicians.<sup>20,21,23,32,34</sup>

**Study limitations and strengths**

The limitations of this research include the survey methodology, which involved collecting data at a single point in time, and the risk of responder bias. The study’s strengths include the use of a validated survey instrument for burnout, and the more than 50% response rate from BC Cancer physicians, despite their busy clinical schedules.

**Summary**

As a result of our survey, the BC Cancer Medical Dental Staff Association and Medical Staff Engagement Society have actively engaged with BC Cancer and Provincial Health Services

Authority leadership in developing a wellness culture and strategy within the organization that focuses on improved staff well-being, improved models of care, and more efficient workflows, and on addressing staff shortages. Our survey was intended to illuminate the state of burnout in late 2019 and early 2020, inform dialogue between physicians and administration, and serve as a catalyst for co-developing strategies. The Ontario Medical Association Burnout Task Force 2021 suggests that top system-level solutions for reducing burnout in medical staff should include (1) reduced documentation and administrative work, (2) fair and equitable compensation, (3) increased work–life balance by making organizational policy changes, (4) seamless integration of digital health tools into physicians’ workflows, and (5) institutional supports for physician wellness.<sup>13</sup> Organizations that ignore or underestimate the potential impact of staff well-being do so at their detriment.<sup>19,20,23,28</sup> Efforts to address physician burnout at BC Cancer would bring opportunities to improve the quality, safety, and efficiency of care, and enhance patient experience. ■

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**Competing interests**

None declared.

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**Burnout is primarily a system-level problem driven by excess job demands and inadequate resources and support, rather than an individual-level problem triggered by personal limitations and lack of resilience.**