

THE PANDEMIC FROM WITHIN: TWO SURVEYS OF PHYSICIAN BURNOUT IN CANADA

ROBERT A. BOUDREAU

*Faculty of Management, University of Lethbridge, Alberta, and
The University of Western Australia*

RENÉE L. GRIECO

Mastel Associates Ltd., Calgary

SANDRA L. CAHOON

The University of Calgary

ROBIN C. ROBERTSON

RCR Consulting Inc., Calgary

ROBERT J. WEDEL

Family Physician, Taber, Alberta

ABSTRACT

Two surveys were conducted to examine the prevalence and severity of burnout in physicians. In the first survey, a total of 1,161 Alberta physicians responded to a series of demographic questions and 4 burnout measures, including a modified Maslach Burnout Inventory (MMBI). In the second survey, a total of 2,251 Canadian physicians completed the Boudreau Burnout Questionnaire (BBQ) as part of the Canadian Medical Association Physician Resource Questionnaire. Using these measures of burnout and the Phase Model approach, physician burnout levels were identified. Overall, 45.7% of Canadian physicians and 48.6 to 55.5% of Alberta physicians were classified as being in the advanced phases of burnout.

We would like to thank the Alberta Medical Association and the Canadian Medical Association for providing us with up-to-date participant data and also for their assistance in the distribution and collection of the surveys. Special thanks to Sarah Howe for her help on both projects. We would also like to acknowledge Shelley Martin who ran the entire Physician Resource Questionnaire project from start to finish and helped run our SPSS syntax to produce the tables required for the burnout analyses. Last, but not least, thank you to the physicians of Alberta and Canada who took the time to participate in this study. This research project was funded in part by the Alberta Medical Association, Family and Physician Support Program, the College of Physicians and Surgeons of Alberta, the Rural Physician Action Plan, the Canadian Medical Association, and the University of Lethbridge.

The first reference to burnout, made by Bradley (1969), appeared over a generation ago. A few years later, Freudenberger (1974) presented the first descriptive account of *burn-out*, in which he observed that certain individuals within the human services professions came to be inoperative as a result of exhausting their physical and mental resources. Various concepts had been used earlier to describe similar experiences (e.g., overstrain, shell-shock) and practitioners and workers showed signs of burnout long before it first appeared in print. Nonetheless, the significance of Freudenberger's discovery along with its timing serves as a poignant reminder for both present realities and future promise. Today, burnout seems to be more widespread, of longer duration, and more virulent than most people believe—a kind of workplace plague affecting occupations, cultures, and countries alike. Popular press and academic journal offerings suggest that chronic job stress or burnout has become the single, most important workplace issue, and there is little chance of it disappearing into the new millennium any time soon.

From 1969 to the present, over 10,000 published citations have been identified in three separate bibliographies (Boudreau, 2005b; Boudreau & Nakashima, 2002; Kleiber & Enzmann, 1990) on burnout, further reinforcing its importance. More specifically, the discussions of burnout across different occupations (e.g., in teaching, policing, medicine) have recently emerged as identifiable areas within the more general field of burnout and work stress. For example, in her longitudinal studies, Mawardi (1979, 1983) offered some of the earliest descriptions of physician stress, burnout, and impairment. This focus on doctor stress and burnout has continued steadily with national and international studies on physician burnout dealing with such topics as the coping of doctors, barriers to getting help, the negative effects of physician burnout on patient care, rural life, increasing burnout and stress levels experienced by doctors, and patient–doctor perceptions (e.g., Burke, 1995; Golembiewski & Deckard, 1994; Grunfeld et al., 2000; Hawaleshka, 2003; Kaufmann, 1999; Lavanchy et al., 2004; Linzer et al., 2001; McManus, Winder, & Gordon, 2002; Milne, 2003; Velamoor, Kazarian, Persad, & Silcox, 2000). As part of this emerging field of physician burnout, Boudreau (2005b) has identified 53 separate articles (6 Canadian and 47 international) from 1986 to 2005 featuring physician burnout survey data. Building on these contributions, the present article attempts to further refine our definition of burnout as well as offer results on the prevalence and severity of burnout in doctors practicing in Alberta as well as Canada-wide. A discussion of definition and the *Phase Model* approach is presented next.

Phase Model Approach

The experience of burnout includes descriptions of momentary states of low energy, severe depression requiring hospitalization, and all conditions in between, which has led to skepticism and confusion surrounding the term. And although its presentation can be debilitating, there is no acknowledgement of burnout in the *Diagnostic and Statistical Manual of Mental Disorders–IV* (American Psychiatric Association, 2000) classification for psychiatric illness. However, over the last 20 years the Phase Model has been used to document the incidence and patterning of worker burnout. The Phase Model approach, originally proposed by Golembiewski, Boudreau, Munzenrider, and Luo (1996), constitutes a promising response to this lack of definition and provides a means for guiding future action. This approach rests on the early work of Maslach and Jackson (1981), who described burnout

along three dimensions: depersonalization (dp), or the tendency to view others as objects rather than as feeling, valuing persons; personal accomplishment (pa), or the degree to which a person perceives doing well on worthwhile tasks; and emotional exhaustion (ee), or the feelings of being emotionally overrun and exhausted by one's work. Responses to a modified version of the Maslach Burnout Inventory (MMBI) permit assigning each individual a score on these three dimensions. The Phase Model extends the description of the three MMBI dimensions and proposes an eight-phase model of progressive burnout based on two conventions: firstly, an individual's three dimension scores can be coded as High (HI) or Low (LO) based on norms from a large population; and secondly, the three dimensions are not equally significant in burnout. Depersonalization is considered the least virulent contributor to burnout, and emotional exhaustion the most severe. The eight-phase model of progressive burnout is presented in Table 1.

Notice that personal accomplishment is reversed, so a LO assignment on that dimension indicates an individual who is doing well on a task perceived as worthwhile. Phases VI, VII, and VIII are considered the advanced phases of burnout. It is in these phases where an individual will show signs of being HI in at least two of the three burnout dimensions. In Phases VI and VII, an individual shows signs of emotional exhaustion plus either depersonalization or a lack of personal accomplishment. Individuals in Phase VIII show signs of experiencing high levels of all three burnout dimensions: depersonalization, a lack of personal accomplishment, and emotional exhaustion.

The last two lines in Table 1 offer a summary of the percentages of workers classified in each of the eight phases of burnout in North America and in other countries worldwide. These proportions shock most observers because so many persons are in the advanced phases (i.e., 41.5% in North America

Table 1
A Comparison of North American and Worldwide Percentages of Workers
Across the Eight Phases of Burnout

| | Phases of Burnout | | | | | | | |
|--|-------------------|-----|------|------|-----|------|-----|------|
| | I | II | III | IV | V | VI | VII | VIII |
| Depersonalization | LO | HI | LO | HI | LO | HI | LO | HI |
| Personal accomplishment (reversed) | LO | LO | HI | HI | LO | LO | HI | HI |
| Emotional exhaustion | LO | LO | LO | LO | HI | HI | HI | HI |
| Respondents by phases (%) | | | | | | | | |
| North America ^a | | | | | | | | |
| (<i>n</i> = 24,721 in 62 work settings) | 24.8 | 6.0 | 12.4 | 8.2 | 7.1 | 13.1 | 8.0 | 20.4 |
| Other worldwide ^b | | | | | | | | |
| (<i>n</i> = 6,692 in 20 work settings) | 10.0 | 5.3 | 12.2 | 14.1 | 5.2 | 10.9 | 5.0 | 37.3 |

Note. LO = low; HI = high. From *Global Burnout: A Worldwide Pandemic Explored by the Phase Model*, by R.T. Golembiewski, R.A. Boudreau, R.F. Munzenrider, and H. Luo, 1996, Greenwich, CT: JAI Press Inc. Reprinted with permission.

^aNorth American percentages are from Table VI.1, p. 163.

^bWorldwide percentages are from Table VI.4, p. 170.

and 53.2% worldwide). Moreover, we suspect that these 82 work settings overrepresent “healthy” organizations. After all, would uncaring managers or executives authorize a survey with potentially serious implications for disability insurance if they believed their organizations were unusually stress-producing for large proportions of their workforce? It is also likely that, generally, individuals in the more advanced phases of burnout are less apt to complete and return any type of survey. Hence, the present estimates may be conservative. Although many features of this approach remain untested, the Phase Model remains one of the most comprehensive and systematic ways to study burnout, with a current accumulated database of over 40,000 cases.

Physician Burnout in Canada

- For a host of reasons—tight money, technological change, physician burnout—Canada’s 16 medical schools are very cautiously . . . casting about for new ways to build a better doctor
— *Maclean’s*, May 13, 2002
- Too many doctors fail to fight burnout battle
— *Edmonton Journal*, August 26, 2003
- Burnout—“an erosion of the soul.”
— *CMA Guide to Physician Health and Well-Being*, 2003
- Dr. Tadepalli takes on challenges of difficult recruitment and physician burnout
— *The Medical Post*, January 10, 2006

The discussion of physician burnout has become almost commonplace in the popular press in Canada as is evidenced by the quotes above. Notwithstanding such acceptance and the emergence of physician burnout as an identifiable area within the more general field of occupational stress and burnout (Boudreau, 2005b), empirical survey data for Canadian doctors is significantly underrepresented with only a handful of available published studies. By our count, only five surveys on physician burnout have been published since 1994 (Elit, Trim, Mand-Bains, Sussman, & Grunfeld, 2004; Grunfeld et al., 2000; Lavanchy et al., 2004; Lloyd, Streiner, & Shannon, 1994; Thommasen, Lavanchy, Connelly, Berkowitz, & Grzybowski, 2001; Velamoor et al., 2000; Lavanchy and Thommasen use the same data). These five studies represent a total of 725 participants—two Canadian samples of emergency doctors and gynecologic oncologists, two Ontario samples, and a sample of rural physicians from British Columbia. In response to this obvious shortcoming, two separate surveys on physician burnout done in 2002 and 2003 are described in this article. The first survey involves doctors from Alberta, while the second survey involves a nation-wide sample of Canadian physicians.

THE ALBERTA STUDY

Method

Participants. For the purposes of this first survey, a population total of 6,806 Alberta physicians was identified. Participants included practicing and retired physicians, residents, and medical students working within various fields of the health care system.

Survey design. We developed a self-report survey to examine the incidence and severity of physician burnout in Alberta. The Physician Stress and Burnout Survey consisted of 103 questions including 18 demographic questions and 4 separate burnout measures. Due to space limitations, only the results of selected demographic questions and two of the burnout measures from this study will be highlighted here (Goodfellow, 2002). The Modified Maslach Burnout Inventory (MMBI), a 23-item instrument, uses a 7-point intensity scale (0 = *Very much UNLIKE me*, 7 = *Very much LIKE me*) to measure burnout based on three dimensions—depersonalization, a lack of personal accomplishment, and emotional exhaustion—and substitutes the word clients for coworkers (Maslach, Jackson, & Leiter, 1996). The Boudreau Burnout Questionnaire (BBQ), a 40-item measure, uses a 7-point intensity scale (1 = *false*, 7 = *true*). The BBQ assesses four dimensions of burnout: (de)personalization (dpp), personal accomplishment/lack of personal accomplishment (lpa), emotional exhaustion/energy (eee), and fatality/resilience (far; Boudreau et al., 2003). An equal number of positive and negative items are presented for each of the four burnout dimensions in the BBQ.

Procedure. Working with the Alberta Medical Association (AMA), we were able to retrieve email addresses from an existing database at the AMA for 59% of physicians practicing in Alberta. We sent each of these Alberta physicians an invitation to participate in the survey at a specific website address. The other 41% did not have email addresses and were contacted by mail (26%) and fax (15%). The mail-out, fax, and electronic versions of the survey were distributed at the same time. The survey began in June 2002 and ran until September 2002. During the 12-week study, three electronic reminders were sent out; as well, a reminder was published in the July issue of *MD Scope*, a members' monthly newsletter. Due to time and cost considerations, no reminders were sent out via surface mail or fax. It should be noted that a comparative analysis of mean scores for each question in each of the four burnout measures across the three methods was conducted. No differences in the pattern of burnout responses across the mail, fax, and email methods used in this study were found. Finally, this study was reviewed and approved by a University of Lethbridge Human Subjects Research Committee whose policies are in accordance with those of the Tri-Council Policy Statement (1998).

Results

Response rates. In June 2002, the AMA identified 6,806 physicians as currently working in Alberta. For various reasons 222 surveys from this total could not be delivered, leaving a total sample size of 6,584. The response rates by methods were 17.7% (311/1,755) for mail, 13.8% (123/889) for fax, and 18.5% (727/3,940) for email. The overall response rate was 1,161 out of 6,584 or 17.6%. The number of responses by categories of doctors was 1,028 (88.5%) practicing physicians, 49 (4.2%) retired physicians, 65 (5.6%) residents, and 12 (1.0%) medical students with 7 (0.6%) missing responses.

The vast majority of survey participants were practicing physicians, and this total of 1,028 represents almost one quarter (21.7%) of all practicing physicians in the province of Alberta. Given the low response rates, however, several points deserve attention here.

1. Although the response rates from this study are lower than most of the available, published surveys on physician burnout (see Boudreau, 2005b), the response rates are comparable to recent

Alberta and Canadian physician surveys. Specifically, T. Williams (personal communication, July 30, 2002) reports that the overall response rates for two Alberta physician surveys conducted in 2000 and 2002 were 18% and 17%, respectively. In a 2003 mail-out survey of 3,500 family doctors across Canada sponsored by *Maclean's* and *The Medical Post*, a response rate of 15.9% was reported (Hawaleshka, 2003).

2. According to some authors (e.g., Baruch, 1999), the 21.7% response rate for practicing physicians achieved in this study falls within the acceptable published limits for this occupational sample type.
3. While differences between responders and nonresponders were not formally tested in this study, the demographic profile of responders generally mirrors the population profile of Alberta doctors available from the AMA and the College of Physicians and Surgeons of Alberta (2002). The only demographic differences were slightly higher response percentages from female and specialist physicians in this study when compared to the entire population of Alberta doctors.

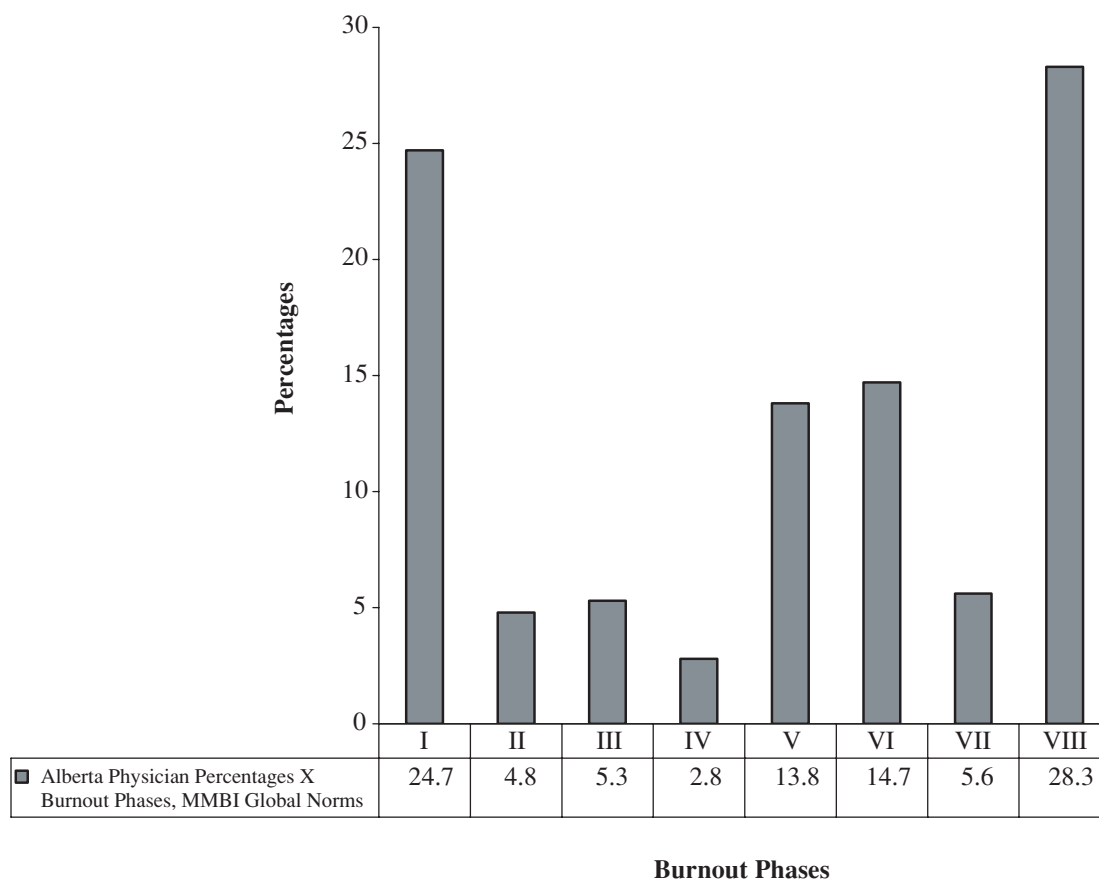
Given these considerations, the 1,161 respondents in this study appear to be both an adequate and representative sample of the entire study population of Alberta physicians.

Demographic characteristics. The typical Alberta participant is a 46-year-old male practicing physician, married, with one child, and living in an urban centre. For the entire sample of participants we found that (a) 39% are female, (b) the age range is from 20 to 87, (c) 83.4% are married/common law, (d) the number of children currently living at home ranges from 0 to 8, (e) 45% are family physicians, (f) 22.2% are international medical graduates, (g) they have been in practice for an average of 17.1 years, in their current position for 10.6 years, and in their present work location for 9.1 years, (h) 72% work in a group in an urban centre, and (i) 79% use fee for service as the main form of payment.

Alberta physician burnout rates: The MMBI and the Phase Model approach. Using the 23-item MMBI, subscale scores for depersonalization (dp), personal accomplishment (pa-reversed), and emotional exhaustion (ee) were calculated. Building on what has been done previously using the Phase Model approach in other published studies, each physician was then assigned to one of eight phases of burnout using a set of global norms previously identified. Global norms are defined here as the median cutoffs available from two larger U.S. populations for the three subscales in the MMBI (specifically, dp, 18; pa [reversed scores] 26; ee, 23; Golembiewski, Munzenrider, & Stevenson, 1986). Essentially, each individual was categorized as being HI or LO in each of the three MMBI subscales, and then assigned to one of eight possible phases of burnout. The assignments presented in Figure 1 indicate that almost half (48.6%) of Alberta physicians are in what the Phase Model describes as an advanced stage or phase of burnout (i.e., phases VI, VII, VIII).¹

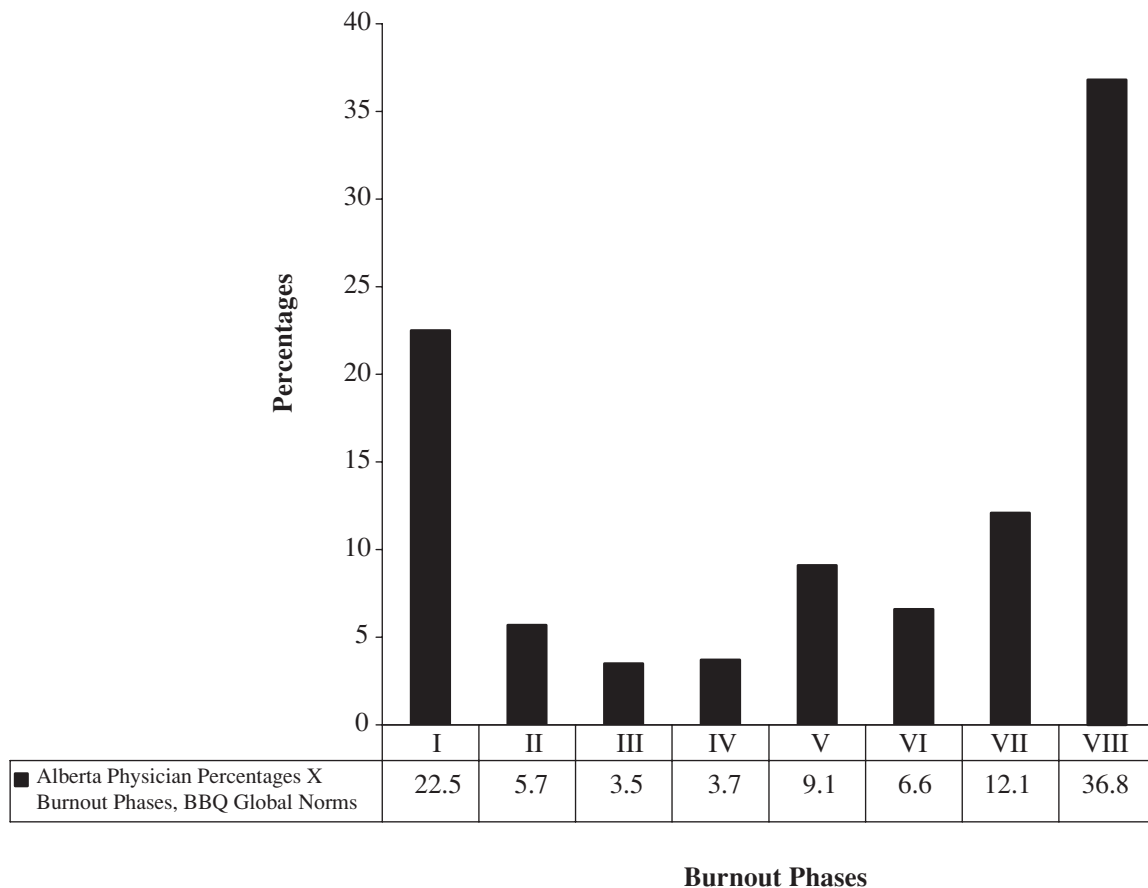
Alberta physician burnout rates: The BBQ and the Phase Model approach. In an attempt to improve upon the measurement of burnout, the Boudreau Burnout Questionnaire (BBQ) has been developed (Boudreau, 1998, 2003). It was one of four burnout measures used in this Alberta survey. Similar to procedures using the MMBI, Alberta physicians were classified using their BBQ scores and the Phase Model approach. To reiterate, phases I, II, and III in the Phase Model represent a situation

Figure 1
Percentages of Alberta Physicians Across the Eight Phases of Burnout
Using the Modified Maslach Burnout Inventory (MMBI)



where individuals are managing their stress and burnout, while phases VI, VII, and VIII represent advanced phases of burnout where individual coping skills and resources are being taxed beyond their capabilities. Phases IV and V represent a kind of temporary station whereby individuals will be moving in one direction or the other soon. Recoding all the positive BBQ items and using global norms for three of the subscales in the BBQ (i.e., 22 for dpp; 29 for lpa; and 32 for eee; from Boudreau, 1998, 2003; Crow, 2004), physicians were categorized as HI or LO in each of the three BBQ subscales and then assigned to one of the eight phases of burnout. These assignments are offered in Figure 2 and indicate that 55.5% of Alberta doctors are in an advanced phase of burnout. A comparison of the Alberta physician advanced phase assignments (i.e., VI, VII, VIII) using the MMBI (48.6%) and the BBQ (55.5%) burnout measures is presented in Figure 3. Taken together, the results present a consistent message: One out of every two physicians in Alberta is experiencing burnout with signs of greater emotional exhaustion, depersonalization, and a lack of personal accomplishment in their work.

Figure 2
Percentages of Alberta Physicians Across the Eight Phases of Burnout
Using the Boudreau Burnout Questionnaire (BBQ)

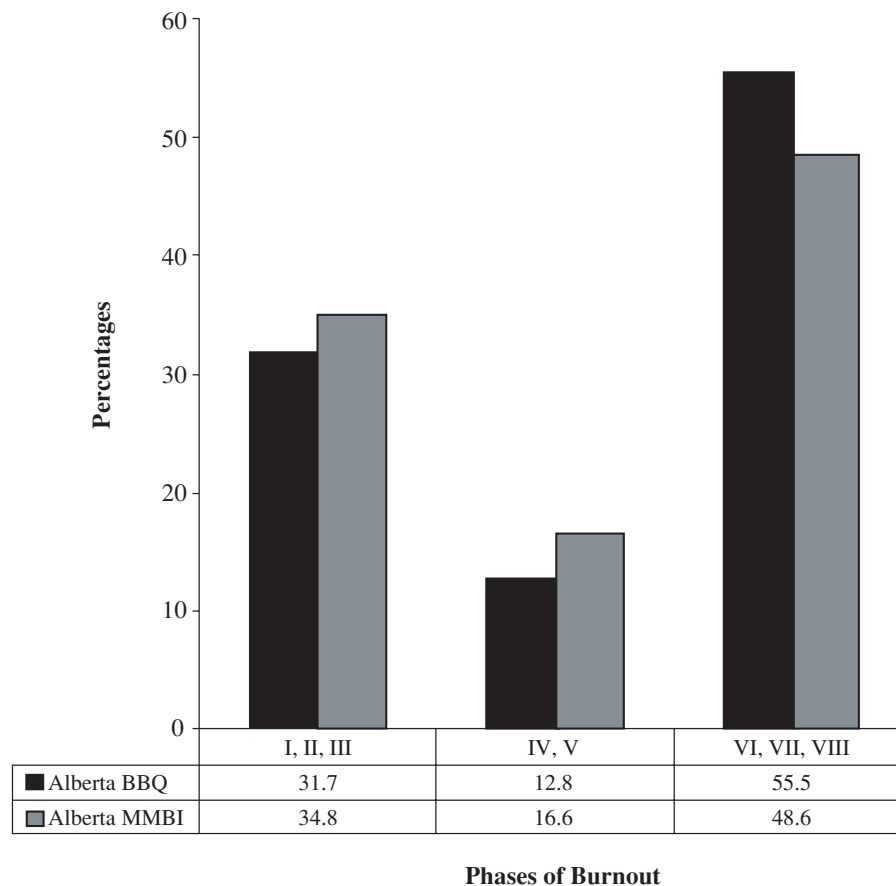


THE CANADIAN SURVEY

Method

Participants. The second study of physician burnout described here was part of a larger survey conducted by the Canadian Medical Association (CMA). A total of 8,172 doctors were randomly selected from the CMA Masterfile 2003 database of 60,859 physicians licensed to practice medicine in Canada. Respondents included in the sampling frame were those who were, according to the CMA Masterfile, physicians (excluding residents) up to the age of 80, currently licensed to practice but not retired, and with a valid Canadian address. Once the sample was drawn, frequencies for key demographics (province, language, age group, and gender) were compared to the same frequencies for the population to ensure that the sample was representative along those dimensions.²

Figure 3
A Comparison of Percentages of Alberta Physicians Across the Phases of Burnout
Using the MMBI and the BBQ Measures



PRQ background and survey design. The CMA Physician Resource Questionnaire (PRQ) 2003 is an eight-page survey document containing questions in the areas of information technology, monthly on-call activities, professional stress and burnout, professional activities, pharmaceuticals, demographics, and comments. The option to complete the survey online is indicated on the cover page. Demographic statements and a comment section are found on the last page.

The PRQ format, available in English and French versions, was initially developed by the CMA in 1990 as national census mail survey. The objective of this census, which had a 74.2% response rate, was to determine “the supply, mix, and distribution of physicians in Canada and to compare data with those of the 1982 and 1986 physician surveys” (Sanmartin & Snidal, 1993, p. 977). In 1993 and 1995, and annually from 1997 to 2003, the PRQ data format has been used to gather random sample data to assess, among other things, the activity status, workload, income change, internet use, practice locale,

and demographic profiles of Canadian physicians. The 1998 and 2001 versions of the PRQ include a section entitled Professional Stress. Burnout and stress seemed to be a growing concern for the Canadian medical profession. Anecdotes and the lack of any substantial research data suggested the need for additional study. This and other data would assist in defining the work required of the CMA's new Centre for Physician Health and Well-being. Towards this end, an abbreviated version of the BBQ (i.e., 10 dpp, 10 lpa, and 10 eee questions were used; the 10 far questions were excluded) was selected for use in the 2003 version of the PRQ.

Procedure. The survey was administered by the CMA Research, Policy, and Planning Directorate. Anonymity of the respondents was achieved via a double-blind method in conjunction with the external mail house responsible for sending out packages via postal mail for the paper group, and emails to the email group. Data were collected by an external data capture company (paper submissions) and an external web services company (online submissions).

Initial contact with the physicians was accomplished through one of two avenues: Either the self-administered questionnaire with the cover letter offering the option for participants to complete an electronic survey was mailed, or an electronic invitation directing participants to the survey website was sent. Both methods supplied an identification number to begin the electronic survey. A postcard or email reminder, depending on mode of initial contact, was sent two weeks later. Nonrespondents were sent a paper copy of the survey four weeks following the reminder (Cahoon, 2003). The 2003 PRQ, which included the 30-item BBQ survey, was referred to a University of Lethbridge Human Subjects Research Committee whose policies are in accordance with those of the Tri-Council Policy Statement (1998).

To maintain confidentiality and anonymity, the data for this study were acquired from the CMA Research, Policy, and Planning Directorate in an aggregate form only. Direct access to individual responses was not an option, and results were obtained via output tables.

Results

Response rates. PRQs were emailed or mailed to physicians starting on February 6, 2003. For various reasons, 250 physicians in the original sample were deemed ineligible and were removed from the sample, bringing the sample size down to 7,922 physicians. A total of 2,251 usable responses were returned with some level of completion by the cutoff date of June 18, 2003. This equates to a response rate of 28.4%. Previous response rates to CMA PRQ surveys using this collection protocol have ranged from 35 to 45%, but response rates "have been dropping steadily with each successive year" (S. Martin, personal communication, March 14, 2003).

Demographic characteristics. The demographic and professional characteristics for the respondents, the sample of 7,922, and the entire population of Canadian doctors are offered in Table 2. Respondents' demographic characteristics (gender, language, age group, province of practice, and practice locale (rural or urban) based on the second digit of the postal code) were characterized by association to the CMA Masterfile, and not by self-reported response; this was accomplished via the double-blind

process in conjunction with an external mail house in order to safeguard the anonymity of survey respondents. The comparisons offered in Table 2 suggest that the participants in this study are representative of the sample and population of CMA doctors. Slight differences, however, for gender and specialty should be noted.

Canadian physician burnout rates: The BBQ and the Phase Model approach. Levels of burnout among this sample of Canadian physicians were classified using their BBQ scores and the Phase Model approach. Again, using global norms for three of the subscales in the BBQ (i.e., 22 for dpp; 29 for lpa; and 32 for eee), physicians were categorized as HI or LO in each of the three BBQ subscales and then assigned to one of the eight phases of burnout. These assignments are offered in Figure 4 and suggest that 45.7% of Canadian physicians are in the advanced phases of burnout with 31.1% in the worst possible way, Phase VIII.

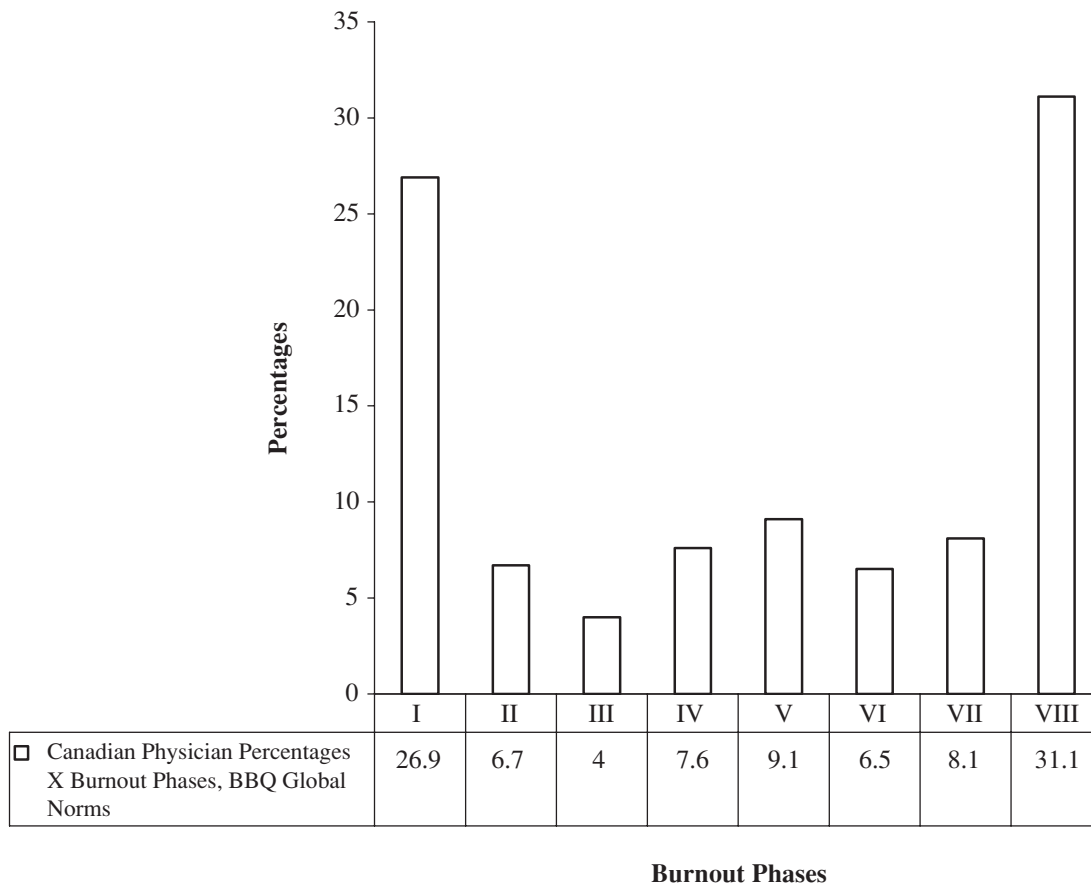
Table 2
Demographics and Professional Characteristics for the Respondents, the Sample, and the Entire Population of Canadian Doctors

| Sample characteristics | <i>n</i> (%) | Sample (%) | Pop. (%) | Sample characteristics | <i>n</i> (%) | Sample (%) | Pop. (%) |
|------------------------|-----------------|---------------|-------------|------------------------|------------------|---------------|------------------|
| Totals | 2,251 | 7,922 | 60,859 | Totals | 2,251 | 7,922 | 60,859 |
| Age | | | | Province | | | |
| < 35 | 9.5 | 8.8 | 8.9 | NL | 1.6 | 1.7 | 1.7 |
| 35–44 | 27.4 | 27.6 | 27.7 | PE | 3.6 | 2.4 | 0.3 |
| 45–54 | 32.8 | 31.9 | 30.8 | NS | 3.1 | 3.2 | 3.4 |
| 55–64 | 20.3 | 19.7 | 19.7 | NB | 2.7 | 1.9 | 2.1 |
| 65 + | 10.0 | 10.2 | 10.7 | PQ | 22.3 | 26.3 | 26.8 |
| Unknown | | 1.8 | 2.1 | ON | 36.2 | 34.9 | 35.9 |
| | | | | MB | 3.4 | 3.6 | 3.6 |
| Gender | | | | SK | 2.8 | 2.7 | 2.7 |
| Male | 66.0 | 69.8 | 69.6 | AB | 8.4 | 8.8 | 9.3 |
| Female | 34.0 | 30.2 | 30.4 | BC | 15.6 | 14.2 | 13.9 |
| | | | | NT | 0.1 | 0.1 | 0.1 |
| Practice locale | | | | YT | 0.2 | 0.1 | 0.1 |
| Rural | 9.0 | 8.2 | 7.9 | NU | 0.0 ^a | 0.1 | 0.0 ^a |
| Urban | 91.0 | 91.8 | 92.1 | | | | |
| Specialty | | | | | | | |
| GP/family physician | 54.9 | 52.2 | 51.8 | | | | |
| Medical specialist | 32.8 | 35.0 | 35.2 | | | | |
| Surgical specialist | 12.3 | 12.9 | 13.0 | | | | |

Note. The totals for the specialty categories are slightly lower due to the exclusion of a small number of medical researchers from this study.

^aRounding to one decimal place resulted in 0.0% for both columns.

Figure 4
Percentages of Canadian Physicians Across the Eight Phases of Burnout Using the Boudreau Burnout Questionnaire



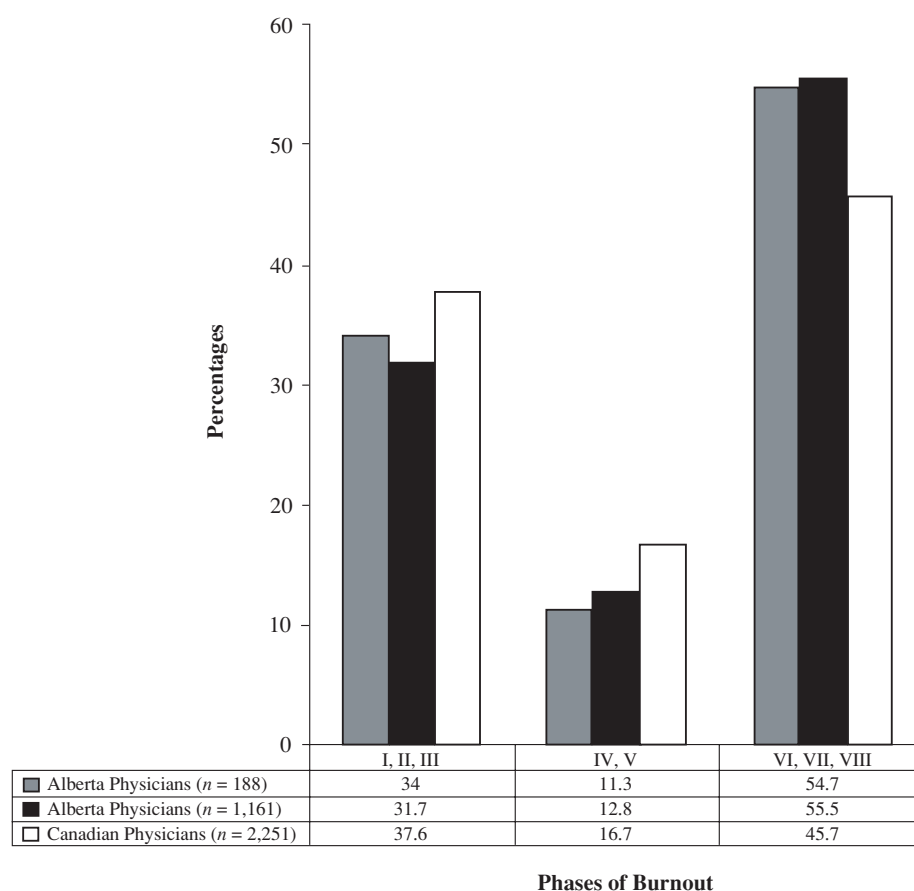
A total of 188 Alberta doctors participated in this Canadian survey. A comparison of BBQ responses and phase model assignments for this group, along with the entire Canadian sample ($n = 2,251$), and the previous Alberta study ($n = 1,161$) is offered in Figure 5. These results reinforce the finding that almost half of all physicians who responded to these surveys are experiencing high levels of distress and burnout. It is also clear from the data that Alberta doctors are even more at risk than their colleagues across the country.³

DISCUSSION

This article attempts to further refine our definition of burnout as well as offer data on the prevalence and severity of physician burnout. The summary results of two separate surveys—one of Alberta doctors and one of a nation-wide sample of Canadian physicians—were presented in fair detail. In

Figure 5

A Comparison of Percentages of the Two Samples of Alberta Physicians and the Sample of Canadian Physicians Across the Phases of Burnout Using the BBQ



terms of participants ($N = 3,412$) and sample sizes ($N = 14,506$), these surveys combined represent the largest study ever done on physician burnout in Canada and worldwide (cf., Boudreau, 2005b; Elit et al., 2004; Grunfeld et al., 2000; Lavanchy et al., 2004; Lloyd et al., 1994; Thommasen et al., 2001; Velamoor et al., 2000). The 3,412 physicians participating in either the Alberta survey or the Canadian survey represent a powerful, collective voice of what it means to be working as a physician in Canada. Based on these survey results, several points deserve attention here.

Global and Occupational Comparisons

Virtually half of all those participating in this study are described as being in an advanced phase of burnout. We also know that being burned out is associated with greater feelings of helplessness, greater tension, lower productivity and involvement, increased health complaints, substance abuse,

greater dissatisfaction, higher turnover and absenteeism, and even suicide in some cases (e.g., Grunfeld et al., 2000; Kaufmann, 1999; Lavanchy et al., 2004).

Using the Phase Model approach allows researchers to go beyond the reporting of mean scores for different subscales to the documentation of comparative incidence and patterning of worker burnout across occupations and countries. Over the last two decades, Phase Model burnout results have been collected for a great many health-care and non-health-care occupations and countries including Canada, the United States, New Zealand, Japan, and Belarus (e.g., Barsky, 1999; Boudreau, 1998; Boudreau & Golembiewski, 1989; Golembiewski et al., 1996). With few exceptions, the Canadian physician burnout percentages reported in this study exceed all of the other occupations ever sampled. Moreover, when compared to other international, published studies of physician burnout (Boudreau, 2005a), Canadian physicians are more at risk than their global counterparts. Percentages from the five previous Canadian surveys of physician burnout (i.e., 26% to 55%) reinforce these present trends. Finally, the results from this study, coupled with a recent BC study of rural doctors (Lavanchy et al., 2004; Thommasen et al., 2001), suggest the possibility of significant physician burnout differences across provinces and territories (i.e., doctors in Western Canada may have higher levels of burnout when compared to doctors in other regions). Beyond any global and occupational comparisons, we must begin the process of seriously examining the possibility of regional differences within our own country and what this means for practitioners and policymakers alike.

The Mental Health and Illness of Physicians

This and other recent studies (see Boudreau, 2005b) confirm what we have all intuitively suspected for several years now—that physicians are at significant risk for emotional exhaustion and, ultimately, burnout. What is becoming increasingly clear and alarming is the depth and breadth of this problem, as demonstrated by the virulence found within the profession.

Consider the doctor–environment dialectic. On the one hand, physicians are driven by a desire to provide a high level of quality, comprehensive care, what some might describe as a search for “relentless perfectionism” (Kaufmann, 1999, p. 46). This is coupled with an added dimension, stemming from the uniqueness of the relationship and “covenant” that physicians have with their patients, and the intensity with which they value that relationship and feel accountable to it (Graham et al., 1996). On the other hand, the working environment in which doctors increasingly find themselves makes it difficult, if not impossible, to provide the quality of care they feel is required. The acute shortage of physicians, nurses, and other health providers has necessitated excessively long work hours. The increasing complexities of medical services, aging patients, physician demographics, and rising public and government expectations are coupled with an ongoing reduction in infrastructure resources and support (see, for example, Kaladeen, 2002; Kaufmann, 2001; Linzer et al., 2001). At the risk of oversimplifying, this dialectical tension between a doctor’s drive and the current medical workplace contributes to the ever-present and ever-increasing burning out of physicians. It is also interesting to note that many of the 491 physicians who offered qualitative comments in either of the surveys spoke about this dialectic.

The results of this study are alarming, and clearly reflect the current state of mental health and illness of Canadian doctors. Such a trend needs to be both acknowledged and ultimately reversed, if doctors are to achieve some acceptable levels of mental health and resilience, both personally and professionally.

Suggested Research and Policy Routes

The Boudreau Burnout Questionnaire (BBQ) was introduced in an attempt to improve on the Maslach Burnout Inventory (MMBI) and other available measures of burnout and physician stress. The burnout data collected with the BBQ in this and other studies offers promise for developing better measures of occupational health and illness in the future. To this end, the next improvements in the measurement of physician burnout should include a balance of 25–30 questions that are positive and negative, and that address both life and work issues and interactions. Such a measure dedicated to assessing physician burnout could also include a qualitative component (cf., Rafferty, Lemkau, Purdy, & Rudisill, 1986). The importance of improving and developing a better measure of physician burnout cannot be overstated at this time.

On a broader scale, a more integrated, systematic, multimethod (e.g., narrative and survey designs), and multisource (e.g., practicing physicians, residents, medical students, retired physicians, and other stakeholders impacting the physician as health provider) approach to understanding physician burnout across the career life cycle must be given serious consideration. Previous PRQs and the most recent 2005 Health Care in Canada Survey provide a promising basis for developing such an approach.

The results from this study suggest that doctors are facing their own pandemic from within—the experience of burning out and all of its associated outcomes (e.g., poor performance, poor health, feelings of helplessness, greater dissatisfaction; Golembiewski et al., 1996). The pandemic for physicians is real as they struggle to cope with and adapt to the demands of a most difficult profession. As we continue to build our knowledge base, we must not ignore the immediate need for revisiting and possibly changing accepted practices and policies that may be contributing to the burnout of physicians. Specific issues involving on-call, maternity leave, residency requirements, locums, and sabbatical opportunities appear to require our immediate attention (cf., Feldman, 1999; Kaufmann, 2002; Robertson & Kaufmann, 2002). While we continue to struggle with “how to build a better doctor” (Sheppard, 2002, p. 1), we should also be encouraged by several recent, practical advances (e.g., the CMA Centre for Physician Health and Well-Being, and physician health programs, both found at www.cma.ca; Brewster & Robertson, 2002; CMA, 1998, 2003) designed to deal with this pandemic from within.

CONCLUSION

Before we can prescribe solutions and treatments, we need to have a clear diagnostic understanding of the presenting problem. To this end, the present study attempts to provide an unequivocal indication of physician burnout that can be compared with other occupational groups provincially, nationally, and globally. Clearly, the next steps involve both the communication of these results along with a

serious and informed discussion of what should be done about it. Given the present findings, further investigation and intervention are the only viable options. Burnout is a fact of life for physicians and we need to take an active role in looking after our health providers (Hanson, 2003).

NOTES

1. All the burnout percentages reported in this article are based on the number of usable returns which will be slightly lower than the total Alberta and Canada-wide numbers of 1,161 and 2,251, respectively.
2. Had the sample not been a good match on these characteristics, a new sample would have been drawn.
3. In addition to the selected demographic and burnout phase distributions featured in this article, several comparisons were examined including burnout levels by gender, age, location, and specialty. Due to space considerations these were not included here. Details of these analyses as well as complete descriptive statistics, intercorrelations, item-total reliabilities, and factor analytic results for all the measures and subscales used in both surveys are available from the first author. Copies of the Physician Stress and Burnout Survey used in the Alberta study and the Boudreau Burnout Questionnaire are also available on request.

RÉSUMÉ

Deux études visant à examiner la fréquence et la sévérité du *burnout* parmi les médecins ont été effectués. Dans la première étude, 1 161 médecins albertains ont répondu à une série de questions démographiques et 4 mesures de *burnout* incluant un Maslach Burnout Inventory modifié (MMBI). Dans la deuxième étude, 2 251 médecins canadiens ont complété le Boudreau Burnout Questionnaire (BBQ) qui faisait partie du Questionnaire sur les effectifs médicaux de l'Association médicale canadienne. Les niveaux de *burnout* chez les médecins ont été identifiés à partir de ces mesures de *burnout* et à partir de l'approche Phase Model. En tout, 45.7% des médecins canadiens et 48.6% à 55.5% des médecins albertains ont été classifiés comme étant dans des phases avancées du *burnout*.

REFERENCES

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.
- Barsky, J. (1999). *Women's health, occupational, and life experiences: A life-cycle perspective*. Unpublished master's thesis, The University of Lethbridge, Alberta, Canada.
- Baruch, Y. (1999). Response rate in academic studies – A comparative analysis. *Human Relations*, 52(4), 421-438.
- Boudreau, R.A. (1998). *The occupational health and burnout of New Zealand workers*. Unpublished report, The University of Otago, Dunedin, New Zealand.
- Boudreau, R.A. (1998, 2003). *Boudreau Burnout Questionnaire*. Unpublished measure.
- Boudreau, R.A. (2003). *Burnout of Canadian physicians—A notice for alarm*. Unpublished report, Canadian Medical Association, Ottawa, Ontario.
- Boudreau, R.A. (2005a, April) “*Smashed-In*”: 20 years of doctors in distress. Paper presented at the Research Forum on Change and Innovation in the Organization of Healthcare, Vancouver, British Columbia.
- Boudreau, R.A. (2005b, May). *The worldwide burnout pandemic in medicine: 20 years of doctors in distress*. Presentation as part of the Work Stress Symposium at the annual meeting of the Administration Sciences Association of Canada, Toronto, Ontario.
- Boudreau, R.A., & Golembiewski, R.T. (1989). Cross-cultural burnout: Some early returns and reflections. *Journal of Development Policy Studies*, 44, 1-25.
- Boudreau R.A., Goodfellow, R.L., Amelinckx, A., Crow, R., Scott, K., Robertson, R.C. et al. (2003, March). *Welcome to the BBQ: Toward a cross-cultural measure of burnout*. Paper presented at the Fifth International Conference on Occupational Stress and Health, Toronto, Ontario.

- Boudreau, R.A., & Nakashima, J. (2002, May). *A bibliography of burnout citations 1990-2002*. Paper presented at the annual meeting of the Administrative Sciences Association of Canada, Winnipeg, Manitoba.
- Bradley, H.B. (1969). Community based treatment for young adult offenders. *Crime and Delinquency*, 15(3), 359-370.
- Brewster, J.M., & Robertson, R.C. (2002, October). *Physician health in Canada: Current status and recommendations for action*. Unpublished report.
- Burke, R.J. (1995). Stress, satisfaction, and militancy among Canadian physicians. *Industrial Relations (Canadian)*, 50(3), 617-635.
- Cahoon, S.L. (2003). *Burnout among Canadian physicians*. Unpublished master's project, The University of Lethbridge, Alberta, Canada.
- Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada. *Tri-Council policy statement: Ethical conduct for research involving humans*. (1998). Available at <http://www.pre.ethics.gc.ca/english/policystatement/policystatement.cfm>
- Canadian Medical Association. (n.d.). CMA Centre for Physician Health and Well-Being. Available at www.cma.ca
- Canadian Medical Association. (1998). *CMA physician health and well-being policy*. Ottawa, Ontario: Canadian Medical Association Board of Directors.
- Canadian Medical Association. (2003). *CMA guide to physician health and well-being*. Ottawa, Ontario: Author.
- Canadian Medical Association. (2003). *CMA Physician Resource Questionnaire—2003*. Ottawa, Ontario: Author.
- College of Physicians and Surgeons of Alberta. (2002). *Quarterly update on physician resources for the three months, and year, ended March 31, 2002*. Unpublished report, Edmonton, Alberta.
- Crow, R. (2004). *Stress and burnout amongst aboriginal peoples: Quantitative and qualitative inquiries*. Unpublished master's project, The University of Lethbridge, Alberta, Canada.
- Elit, L., Trim, K., Mand-Bains, I.H., Sussman, J., & Grunfeld, E. (2004). Job satisfaction, stress, and burnout among gynecologic oncologists. *Gynecologic Oncology*, 94, 134-139.
- Feldman, M.K. (1999). Time out. Physician sabbaticals can provide relief from burnout, a chance to learn new skills, and time for introspection. *Minnesota Medicine*, 82(8), 23-24.
- Freudenberger, H.J. (1974). Staff burnout. *Journal of Social Issues*, 30(1), 159-165.
- Golembiewski, R.T., Boudreau, R.A., Munzenrider, R.F., & Luo, H. (1996). Global burnout: A worldwide pandemic explored by the Phase Model. *Monographs in Organizational Behavior and Industrial Relations*, Vol. 21. Greenwich, CT: JAI Press.
- Golembiewski, R.T., & Deckard, G. (1994). Professions, norms, and the Phase Model: Physicians as a special case? *Journal of Health & Human Resources Administration*, 17, 63-75.
- Golembiewski, R.T., Munzenrider, R.F., & Stevenson, J.G. (1986). *Stress in organizations*. New York: Praeger.
- Goodfellow, R. (2002). *Lemmings over a cliff: A study of Alberta physician burnout*. Unpublished master's project, The University of Lethbridge, Alberta, Canada.
- Graham, J., Ramirez, A.J., Cull, A., Finlay, I., Hoy, A., & Richards, M.A. (1996). Job stress and satisfaction among palliative physicians. *Palliative Medicine*, 10(3), 185-194.
- Grunfeld, E., Whelan, T.J., Zitzelsberger, L., Willan, A.R., Montesanto, B., & Evans, W.K. (2000). Cancer care workers in Ontario: Prevalence of burnout, job stress, and job satisfaction. *Canadian Medical Association Journal*, 163(2), 166-169.
- Hanson, D. (2003, August 19). A cure for Canada's overstressed MDs. *The Globe and Mail*.
- Hawaleshka, D. (2003, December 8). The doctor is in . . . pain. *Maclean's*, 116(49), 38-40, 42.
- Kaladeen, S. (2002, August 19). A doctor's angry diary. *Maclean's*, 115(33), 42-45.
- Kaufmann, M. (1999, May). Recognizing the signs and symptoms of distress. *Ontario Medical Review*, 46-47.
- Kaufmann, M. (2001, November). Physician burnout: Part I—cause and condition. *Ontario Medical Review*, 48-49.
- Kaufmann, M. (2002, January). Physician burnout: Part II—personal factors in burnout prevention and health maintenance. *Ontario Medical Review*, 50-53.
- Kleiber, D., & Enzmann, D. (1990). *Burnout. Eine Internationale Bibliographie – An international bibliography*. Gottingen: Verlag fur Psychologie, Dr C.J. Hogrefe.

- Lavanchy, M., Connelly, I., Grzybowski, S., Michalos, A.C., Berkowitz, J., & Thommasen, H.V. (2004). Determinants of rural physicians' life and job satisfaction. *Social Indicators Research*, 69, 93-101.
- Linzer, M., Visser, M.R., Oort, F.J., Smets, E.M., McMurray, J.E., & de Haes, H.C. (2001). Predicting and preventing physician burnout: Results from the United States and the Netherlands. *American Journal of Medicine*, 111(2), 170-175.
- Lloyd, S., Streiner, D., & Shannon, E. (1994). Burnout, depression, life, and job satisfaction among Canadian emergency physicians. *The Journal of Emergency Medicine*, 12(4), 559-565.
- Maslach, C., & Jackson, S.E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior*, 2, 99-113.
- Maslach C., Jackson, S.E., & Leiter M.P. (1996). *Maslach burnout inventory manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Mawardi, B.H. (1979). Satisfaction, dissatisfactions, and causes of stress in medical practice. *Journal of the American Medical Association*, 241, 1483-1486.
- Mawardi, B.H. (1983). Aspects of the impaired physician. In B.A. Farber (Ed.), *Stress and burnout in the human services professions* (pp. 119-128). New York: Pergamon Press.
- McManus, I.C., Winder, B.C., & Gordon, D. (2002). The causal links between stress and burnout in a longitudinal study of UK doctors. *Lancet*, 359(9323), 2089-2090.
- Milne, C. (2003, December 8). Under pressure. *Maclean's*, 116(49), 45-46.
- Rafferty, J.P., Lemkau, J.P., Purdy, R.R., & Rudisill, J.R. (1986). Validity of the Maslach burnout inventory for family practice physicians. *Journal of Clinical Psychology*, 42(3), 488-492.
- Robertson, R., & Kaufmann, M. (2002, June). Physician burnout: Part III—personal and professional balance. *Ontario Medical Review*, 50-53.
- Ruttan, S. (2003, August 26). Too many doctors fail to fight burnout battle. *Edmonton Journal*, p. A7.
- Sanmartin, C.A., & Snidal, L. (1993). Profile of Canadian physicians: Results of the 1990 physician resource questionnaire [Abstract, Electronic version]. *Canadian Medical Association Journal*, 149(7), 977-984.
- Sheppard, R. (2002, May 13). For a host of reasons—tight money, technological change, physician burnout—Canada's 16 medical schools are very cautiously . . . casting about for new ways to build a better doctor. Retrieved November 11, 2006, from www.macleans.ca/shared/print.jsp?content=966420
- Sibbald, B. (2003). Burnout—"an erosion of the soul." *CMA guide to physician health and well-being* (pp. 9-10). Ottawa, Ontario: Canadian Medical Association.
- Sylvain, M. (2006, January). Dr. Tadepalli takes on challenges of difficult recruitment and physician burnout. *The Medical Post*. Retrieved September 8, 2006, from http://www.medicalpost.com/news/article.jsp?content=20060108_182705_3676
- Thommasen, H.V., Lavanchy, M., Connelly, I., Berkowitz, J., & Grzybowski, S. (2001, April). Mental health, job satisfaction, and intention to relocate. *Canadian Family Physician*, 47, 737-744.
- 2005 Health Care in Canada Survey. Available at www.medicalpost.com
- Velamoor, V.R., Kazarian, S., Persad, E., & Silcox, J.A. (2000, October). Work-related sources of physician stress: Perceived impact on personal, familial, and social well-being. *CPA Bulletin*, 140-144.