# Exposure to Deaths and Dying and Risks of Burnout among Long-Term Care Staff: A Cross-Sectional Survey

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**Introduction**

Deaths in long-term care (LTC) facilities in Canada have increased over the years[1,2] yet the link between exposure to deaths and dying and staff well-being has rarely been investigated. In this study, we examined predictors of staff burnout, focusing specifically on exposure to deaths and dying in LTC.

**Methods**

Between April and June 2016, we surveyed all interdisciplinary care staff (Table 1) that provide direct clinical care across five LTC facilities in Vancouver, British Columbia, Canada. We used a paper-based survey containing a demographic questionnaire, three open-ended questions, and the 22-item Maslach Burnout Inventory (MBI)[3] that measures – on a scale of 0 (never) to 6 (everyday) – emotional exhaustion (EE), depersonalization (DP), and, low personal accomplishment (PA). The open-ended questions asked about respondents' experiences, thoughts, and feelings during and after the time they provided care to dying residents, and also explored respondents' beliefs, attitudes and values about grief, death and dying.

We calculated the proportion of individuals with burnout scores that met criteria for EE (>26), DP (>12), and low PA (<32).[4] We estimated the overall prevalence of individuals at-risk of burnout by assessing whether respondents exhibit: A) $\geq$ one symptoms B) $\geq$ two symptoms C) EE and/or DP, and, D) all three symptoms. We used multivariable generalized linear regression to assess the impact of resident deaths (via exposure groups – $\leq$10 versus $\geq$11 deaths in the previous six months – derived from the results of the descriptive analysis as summarized on Table 2) on staff burnout, adjusting for a number of potential confounders. Missing data were

handled via multiple imputations, and data analyses were performed using R v3.5.0 and Stata v14.0. Responses to open-ended questions were summarized using thematic analysis.

The UBC-PHC Behavioural Research Ethics Board approved the study (H15–02425).

**Results**

A total of 203 (of 577) LTC staff completed the survey. The majority (90%) had regularly cared for one or more dying residents in the past 6 months. About 31% experienced EE, 7% experienced DP, and 20% had low PA. Almost half (46.3%) had at least one burnout symptom and 31.8% experienced EE and/or DP. Detailed descriptive statistics for each burnout symptom can be found on Table 2. Results of the adjusted regression analyses suggest that men were more likely than women to be at-risk of EE and/or DP (Risk Ratio, RR=1.74, 95% CI 1.04 – 2.91) or more likely to be at-risk of having at least one burnout symptom (RR=1.49, 95% CI 1.03 – 2.16). Likewise, staff who provided care to 11 or more dying residents in the past six months had higher scores on EE (Ratio of Means, RoM=1.27, 95% CI 1.05 – 1.55) and DP (RoM=1.52, 95%CI 1.08 – 2.13).

*Thematic Analysis*

A theme that emerged from analysis of responses to open-ended questions centred on feelings of angst, distress, and tiredness ("*You are mourning for the loss and we are expected to still do our own job well, with a full smile as if nothing ever happened"*). Another theme revolved around thoughts about one's own mortality and family issues ("*Is this the way I will die too? Will my family take care of me?*", "*… I reflect on my own aging… the aging of my parents… the fragility of life*"). Staff also hoped that everyone is on the same page regarding: a) care goals or

options ("*Some family members can't accept that their loved ones are dying*"); b) the importance of respect and providing private spaces ("*Respectful language regarding preparing the body of the resident rather than using words such as bagging*"); and, c) the recognition that other types of support and resources are needed for the dying resident and for the staff that provide care ("*No one should die alone*", "*… you are needed… to hold their hands, especially when there are no family members around. I can feel their hands holding me tight so I stay with them for a while").* The range of supports that staff found helpful include: 1) debriefing with colleagues, families and friends, 2) effectively interacting with an interdisciplinary care team that includes palliative care nurses and spiritual health practitioners, 3) education and workshops on death and dying, 4) holding memorials and rituals, 5) faith and prayers, and 6) activities such as listening to music, meditation, breathing, gardening, and exercise. Additional supports that staff reported would help include: 1) increasing awareness of the palliative approach and providing end-of-life education for staff and families; 2) improving communication between care teams and families; 3) giving time and space to reflect and grieve; 3) ensuring the availability of spiritual care; and, 4) acknowledging the role and experiences of staff that provide care to dying residents.

**Conclusion**

LTC staff experience one or more burnout symptoms, which can be exacerbated by prolonged and cumulative exposures to deaths and dying. In particular, risk of burnout is increased among staff who attended to $\geq$11 dying residents over a 6-month period, hence a potential marker for monitoring and intervention. Support programs that take into account the diversity of the health care work place are needed.

## References


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**Table 1. Sample distribution (n=203) before and after imputation**

| Characteristics | Observed | | After Imputation† |
|---|---|---|---|
| | Count | % | % |
| *Gender* | | | |
| Female | 174 | 85.7 | 86.1 |
| Male | 27 | 13.3 | 13.4 |
| Other | 1 | 0.5 | 0.6 |
| Missing | 1 | 0.5 | - |
| *Age group, years* | | | |
| Under 35 | 20 | 9.9 | 10.1 |
| 36 to 45 | 47 | 23.2 | 23.4 |
| 46 to 55 | 67 | 33.0 | 33.0 |
| Over 55 | 68 | 33.5 | 33.5 |
| Missing | 1 | 0.5 | - |
| *Job Category** | | | |
| Resident Care Aides | 94 | 46.3 | 46.1 |
| Nurses | 47 | 23.2 | 23.0 |
| Spiritual Health Practitioners | 5 | 2.5 | 2.5 |
| RD, OT, PT, SW, MT | 15 | 7.4 | 7.4 |
| RA, UC | 17 | 8.4 | 8.3 |
| Physicians & Psychologists | 8 | 3.9 | 3.9 |
| Unknown | 17 | 8.4 | 8.8 |
| *Length of Employment, years* | | | |
| Less than 1 | 11 | 5.4 | 5.6 |
| 1 to 5 years | 27 | 13.3 | 13.4 |
| 6 to 10 years | 51 | 25.1 | 25.2 |
| 11 to 15 years | 23 | 11.3 | 11.4 |
| Over 15 | 90 | 44.3 | 44.4 |
| Missing | 1 | 0.5 | - |
| *Job Status* | | | |
| Full-time | 148 | 72.9 | 73.2 |
| Part-time | 42 | 20.7 | 20.7 |
| Casual | 12 | 5.9 | 6.1 |
| Missing | 1 | 0.5 | - |
| *Multiple Sites* | | | |
| No | 154 | 75.9 | 76.2 |
| Yes | 48 | 23.7 | 23.8 |
| Missing | 1 | 0.5 | - |
| *Number of residents regularly cared for that died in the last 6 months* | | | |
| 0 | 16 | 7.9 | 7.9 |
| 1 to 5 | 94 | 46.3 | 47.2 |
| 6 to 10 | 47 | 23.2 | 23.4 |
| 11 to 15 | 16 | 7.9 | 8.6 |
| 16 to 20 | 8 | 3.9 | 4.4 |
| 21+ | 17 | 8.4 | 8.5 |
| Missing | 5 | 2.5 | - |
| *Expressed Religious Beliefs* | | | |
| No | 105 | 51.7 | 58.0 |
| Yes | 70 | 34.5 | 42.0 |
| Missing | 28 | 13.8 | - |

*Note:* * Nurses include psychiatric nurses, palliative care outreach nurses, nurse educators, clinical nurse leaders; RD, registered dietitians; OT, occupational therapists; PT, physiotherapists; SW, social workers; MT, music therapists; RA, rehabilitation assistants; UC, unit coordinators; physicians include family physicians and psychiatrists.

†Imputation was done via multivariate imputation by chained equations, using the MICE package in R. After imputation percentages (%) were obtained from 200 imputed datasets, following standard procedures for pooling.

**Table 2. Mean scores across 3 domains of burnout and the proportion of at-risk individuals, by demographic and other characteristics**

| | Emotional Exhaustion | | | Depersonalization | | | Personal Accomplishment | | | At-Risk, %† | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Characteristics** | **Mean** | **SD** | **High, %** | **Mean** | **SD** | **High, %** | **Mean** | **SD** | **Low, %** | **A** | **B** | **C** | **D** |
| *All* | 19.6 | 10.8 | 30.7 | 4.9 | 4.7 | 7.3 | 37.6 | 7.8 | 19.9 | 46.3 | 10.4 | 31.8 | 1.1 |
| *Gender* | | | | | | | | | | | | | |
| Female | 19.0 | 10.4 | 28.2 | 4.6 | 4.7 | 6.1 | 37.2 | 7.9 | 20.8 | 44.0 | 10.3 | 28.9 | 0.8 |
| Male | 23.7 | 12.3 | 48.1 | 6.5 | 4.3 | 14.8 | 40.4 | 6.3 | 14.8 | 62.9 | 11.1 | 51.8 | 3.7 |
| Other | 26.0 | 0.0 | 0.0 | 9.0 | 0.0 | 0.0 | 39.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| *Age* | | | | | | | | | | | | | |
| Under 35 | 22.4 | 10.8 | 34.5 | 6.8 | 5.3 | 14.8 | 37.8 | 6.9 | 25.3 | 44.4 | 24.7 | 39.5 | 5.4 |
| 36 to 45 | 17.7 | 10.0 | 22.7 | 4.8 | 4.2 | 5.0 | 36.0 | 9.4 | 23.8 | 43.6 | 7.4 | 23.1 | 0.3 |
| 46 to 55 | 21.0 | 11.3 | 36.5 | 5.0 | 4.7 | 7.6 | 38.2 | 6.6 | 18.2 | 51.5 | 10.7 | 38.0 | 0.1 |
| Over 55 | 18.8 | 10.5 | 29.4 | 4.4 | 4.6 | 6.3 | 38.2 | 7.7 | 17.2 | 43.5 | 7.8 | 29.5 | 1.5 |
| *Job Category** | | | | | | | | | | | | | |
| Resident Care Aides | 19.0 | 11.3 | 28.3 | 5.2 | 5.0 | 9.7 | 37.0 | 8.1 | 19.7 | 44.8 | 11.8 | 29.4 | 1.1 |
| Nurses | 17.5 | 10.1 | 22.5 | 3.6 | 3.8 | 4.8 | 38.5 | 8.2 | 16.9 | 38.7 | 5.0 | 24.8 | 0.2 |
| Spiritual Health | 24.4 | 7.9 | 40.0 | 2.0 | 2.2 | 0.0 | 43.8 | 2.1 | 0.0 | 40.0 | 0.0 | 40.0 | 0.0 |
| RD, OT, PT, SW, MT | 22.0 | 10.8 | 33.3 | 6.3 | 4.5 | 6.7 | 37.7 | 5.5 | 20.8 | 46.7 | 13.3 | 33.3 | 0.6 |
| RA, UC | 20.1 | 10.2 | 36.5 | 4.9 | 3.8 | 2.4 | 35.5 | 7.1 | 34.0 | 56.6 | 15.1 | 37.2 | 0.6 |
| Physicians & Psychologists | 21.8 | 10.7 | 50.0 | 6.3 | 3.9 | 0.0 | 41.4 | 6.0 | 12.5 | 50.0 | 12.5 | 50.0 | 0.0 |
| Unknown | 24.1 | 9.2 | 47.1 | 6.3 | 5.7 | 11.8 | 37.7 | 7.0 | 23.5 | 64.7 | 11.8 | 47.1 | 5.9 |
| *Length of Employment* | | | | | | | | | | | | | |
| Less than 1 | 23.8 | 8.9 | 26.8 | 6.7 | 5.1 | 17.9 | 39.3 | 6.1 | 17.9 | 35.8 | 17.9 | 35.8 | 8.9 |
| 1 to 5 years | 18.3 | 10.3 | 23.5 | 5.5 | 4.3 | 4.4 | 36.7 | 8.1 | 24.6 | 39.2 | 12.1 | 23.7 | 0.7 |
| 6 to 10 years | 19.2 | 10.4 | 31.6 | 5.3 | 4.4 | 6.0 | 36.9 | 8.5 | 24.2 | 53.7 | 8.1 | 33.7 | 0.1 |
| 11 to 15 years | 19.8 | 11.1 | 43.3 | 5.3 | 5.8 | 17.3 | 39.1 | 5.7 | 13.0 | 52.0 | 21.7 | 43.3 | 0.0 |
| Over 15 | 19.7 | 11.2 | 29.7 | 4.2 | 4.5 | 4.9 | 37.8 | 7.8 | 18.0 | 44.0 | 7.3 | 29.8 | 1.2 |
| *Job Status* | | | | | | | | | | | | | |
| Full-time | 20.3 | 11.0 | 34.3 | 4.8 | 4.7 | 7.1 | 37.5 | 7.9 | 20.7 | 50.6 | 10.6 | 35.1 | 0.8 |
| Part-time | 18.3 | 10.0 | 24.6 | 4.8 | 4.3 | 5.2 | 37.9 | 7.3 | 15.5 | 37.1 | 7.8 | 24.8 | 0.2 |
| Casual | 16.3 | 9.4 | 8.3 | 6.5 | 5.2 | 16.7 | 38.3 | 7.1 | 25.0 | 25.0 | 16.7 | 16.7 | 8.3 |
| *Multiple Sites* | | | | | | | | | | | | | |
| No | 19.6 | 10.3 | 30.3 | 4.6 | 4.7 | 6.2 | 37.7 | 7.6 | 20.0 | 46.0 | 9.6 | 31.7 | 0.8 |
| Yes | 19.7 | 12.3 | 32.2 | 5.8 | 4.7 | 10.8 | 37.6 | 8.2 | 19.5 | 47.0 | 12.9 | 32.2 | 2.3 |
| *Number of residents regularly cared for that died in the last 6 months* | | | | | | | | | | | | | |
| 0 | 17.2 | 9.3 | 25.0 | 5.4 | 5.0 | 12.5 | 37.6 | 6.3 | 24.4 | 49.3 | 12.5 | 25.0 | 0.0 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 to 5 | 18.7 | 11.1 | 27.6 | 4.7 | 4.7 | 6.9 | 37.2 | 8.3 | 22.6 | 45.4 | 10.1 | 29.7 | 1.7 |
| 6 to 10 | 18.7 | 9.9 | 26.1 | 4.1 | 3.3 | 2.2 | 39.1 | 7.1 | 13.7 | 37.6 | 4.4 | 26.1 | 0.0 |
| 11 to 15 | 26.5 | 11.4 | 53.5 | 7.8 | 7.1 | 21.9 | 33.7 | 7.7 | 31.6 | 68.3 | 34.5 | 54.0 | 3.6 |
| 16 to 20 | 14.6 | 8.3 | 12.9 | 3.6 | 3.3 | 1.0 | 37.5 | 8.2 | 15.3 | 27.8 | 1.5 | 13.8 | 0.6 |
| 21+ | 25.7 | 8.5 | 53.5 | 6.0 | 4.1 | 7.6 | 39.7 | 5.5 | 8.8 | 60.5 | 8.2 | 53.7 | 0.3 |
| *Expressed Religious Beliefs* | | | | | | | | | | | | | |
| No | 19.7 | 11.4 | 31.6 | 5.4 | 5.1 | 9.5 | 38.1 | 7.7 | 17.6 | 43.8 | 13.8 | 32.6 | 0.9 |
| Yes | 19.5 | 9.9 | 29.5 | 4.2 | 3.8 | 4.1 | 37.0 | 7.8 | 23.1 | 49.7 | 5.5 | 30.8 | 1.4 |

Note: SD – standard deviation. Means, SDs, % are row means, row SDs, and row percentages.

*Nurses include psychiatric nurses, palliative care outreach nurses, nurse educators, clinical nurse leaders; RD, registered dietitians; OT, occupational therapists; PT, physiotherapists; SW, social workers; MT, music therapists; RA, rehabilitation assistants; UC, unit coordinators; physicians include family physicians and psychiatrists.

†A, met criteria for at least one of the following 3 symptoms of burnout: high emotional exhaustion, high depersonalization or low personal accomplishment; B, exceeded threshold of 2 or more burnout features; C, exceeded thresholds for high emotional exhaustion and/or high depersonalization; D, met criteria for all 3 burnout symptoms.

**Table 3. Association between burnout and number of resident deaths in the past 6 months**

| Burnout | Number of regularly cared for residents that died in the past 6 months | | Relative Difference** | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Unadjusted | | | Adjusted‡ | | |
| | 10 or less* (reference) | 11 or more | Estimate | 95% CI | | Estimate | 95% CI | |
| *Average Scores* | | | | | | | | |
| Emotional Exhaustion | 18.37 | 23.89 | **1.30** | **1.11** | **1.53** | **1.27** | **1.05** | **1.55** |
| Depersonalization | 4.56 | 6.11 | **1.34** | **1.01** | **1.78** | **1.52** | **1.08** | **2.13** |
| Personal Accomplishment | 37.92 | 36.71 | 0.97 | 0.90 | 1.04 | 0.93 | 0.86 | 1.02 |
| *Individuals with scores over the Threshold, %* | | | | | | | | |
| High EE | 26.62 | 44.75 | **1.68** | **1.10** | **2.56** | 1.69 | 1.00 | 2.87 |
| High DE | 5.82 | 12.20 | 2.08 | 0.74 | 5.87 | 2.13 | 0.57 | 7.87 |
| Low PA | 19.54 | 20.99 | 1.07 | 0.54 | 2.12 | 1.21 | 0.50 | 2.92 |
| *Individuals at-risk, %†* | | | | | | | | |
| At least one (A) | 42.93 | 57.63 | 1.34 | 0.98 | 1.84 | 1.40 | 0.95 | 2.06 |
| At least two (B) | 8.40 | 17.09 | 2.02 | 0.87 | 4.71 | 2.48 | 0.85 | 7.21 |
| High EE and/or high DP (C) | 27.92 | 45.15 | **1.62** | **1.07** | **2.45** | 1.65 | 0.98 | 2.77 |
| All three (D) | 0.66 | 2.80 | 4.04 | 0.26 | 62.05 | - | - | - |

Note: Numbers in bold are statistically significant at $p<0.05$; CI – confidence interval.

*Reference category for calculating the relative differences.

**Log normal regression was used to compare average burnout scores of those with ≥11 resident deaths and those with less ≤10 resident deaths (reference group). Log binomial regression was used to compare unadjusted proportions. Poisson regression with robust standard errors was used to compare proportions, adjusting for other factors. Point-estimates and confidence intervals were obtained from 200 imputed datasets following standard pooling procedures.

†A, met criteria for at least one of the following 3 symptoms of burnout: high emotional exhaustion, high depersonalization or low personal accomplishment; B, exceeded threshold of 2 or more burnout features; C, exceeded thresholds for high emotional exhaustion and/or high depersonalization; D, met criteria for all 3 burnout symptoms.

‡Variables used for adjustment include age, sex, job category, length of employment, job status, working in multiple sites, and expressions of religious beliefs.