The Cancer Council New South Wales
Centre for Health Research & Psycho-oncology (CHeRP)

Prevalence and predictors of burnout in the COSA oncology workforce

Professor Afaf Girgis & Ms Vibeke Hansen

Prepared for

The Clinical Oncological Society of Australia
& Cancer Australia

December 2007

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Clinical Oncological Society of Australia

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Study overview

A total of 740 COSA members (56%) completed a 10-minute online or paper survey assessing the a) prevalence of burnout via both a global item and the Maslach Burnout Inventory, b) prevalence of psychosocial distress via the Kessler-10, c) demographic and occupational predictors of burnout, d) perceived causes of professional burnout, and e) recommended strategies for preventing or reducing its impact on cancer care personnel.

Key findings

- Self-reported levels of burnout were high, with oncologists and palliative care physicians experiencing the highest rates of burnout.
- Burnout as measured by the MBI showed slightly higher Exhaustion/Emotional Exhaustion rates in those with direct patient contact in their jobs, compared to those without patient contact; while those without patient contact exhibited considerably higher rates of Depersonalisation. Both sub-samples scored high on Personal Accomplishment/Professional Efficacy.
- The proportion of the COSA respondents with moderate to severe levels of psychiatric morbidity was comparable to the Australian general population.
- For those with patient contact, dissatisfaction with leave arrangements and a moderate to high perceived need for communication skills training were the most consistent predictors of burnout.
- High emotional exhaustion was more likely in those with 31 hours or more per week of direct patient contact.
- Depersonalisation was more likely in oncologists and palliative care physicians, respondents early in their career, and in those with low levels of patient contact.
- Low Personal Accomplishment was more likely in those with low levels of patient contact.
- For those whose jobs did not involve patient contact, high Cynicism was predicted by dissatisfaction with leave arrangements and a longer time working in the area of cancer care.
- In the overall sample, the odds of having moderate to severe levels of psychiatric morbidity were increased by being dissatisfied with one's leave arrangements and having high levels of self-defined burnout.
- Qualitative analyses revealed that a third of respondents who reported to have moderate to severe burnout perceived heavy workload to be a main cause of burnout.
- The most frequently mentioned strategy for preventing burnout was ensuring access to support when needed, such as counselling, debriefing, and peer support networks, followed by access to adequate leave, more adequate staffing, and better access to professional development.

INTRODUCTION

The burden of cancer in Australia is significant, with 30,000 dying from the disease and 65,000 new cases diagnosed each year (AIHW, 2004). Earlier diagnosis for many cancers and more effective treatments are contributing to an increase in the duration of life of many cancer patients. The growing population of people living with a history of cancer has focussed attention on the need to address the psychosocial concerns of cancer survivors as well as their informal caregivers and families, in addition to the physical concerns arising from the cancer diagnosis and its treatment.

It is only relatively recently that efforts have been directed at determining the impact which the provision of increasingly complex cancer care has on front-line health care staff, such as oncologists and oncology nurses. The research to date indicates that cancer care workers with direct patient contact experience significant psychiatric morbidity and professional burnout (Whippen, 1991; 2004; Ramirez et al,1995); the latter referring to the erosion of emotional or physical strength and professional engagement as a function of a taxing work environment (Felton, 1998). Whippen (1991) found that 56% of oncologists in a US sample had experienced an episode of burnout at some stage during their career, with prevalence of burnout rising with increasing time spent in direct patient contact. Herschbach (1992) suggests that increased levels of work stress in cancer care workers may be due to greater reported levels of emotional involvement with patients compared to non-oncology staff. The clinical importance of the burnout syndrome is mediated through its potentially significant outcomes in terms of increased medical errors (West et al, 2006), increased turnover and absenteeism (Williams et al, 2000), decreased quality of patient care (Shanafelt et al, 2002), decreased patient satisfaction (Vahey et al, 2004), as well as the significant impact which burnout has on the professional and personal lives of affected personnel (Faragher et al, 2005).

International research in this field has mainly focused on two areas; 1) the prevalence and concomitant features of burnout such as job stress and psychosocial distress and, to a lesser extent, 2) the determinants of burnout, which largely have been explored in terms of occupational, demographic and psychosocial factors. However, while the literature is clear in establishing high levels of burnout and psychological distress in oncology staff (Grunfeld et al, 2000; Ramirez et al, 1995; Sherman et al, 2006), the research is very limited in the reporting of determinants and predictors of burnout in this particular occupational group. In does appear, however, that while results relating to demographic (Kirkcaldy and Martin, 2000; Lessen et al, 2005) and personality factors (Kash et al, 2000) overall are inconsistent, younger age has consistently been reported as a risk factor for burnout (Ozyurt et al, 2006; Ramirez et al, 1995; Gabbe et al, 2002).

Some specific patterns are more strongly evident in the predictive role of occupational or work environment factors, with low job control and high workloads being among the most reported significant predictors of burnout (Ozyurt et al, 2006; Ramirez et al, 1996; Gabbe et al, 2002; Akroyd et al, 2002; Graham et al, 2000; Grunfeld et al, 2005). A strong perceived interference between work and home life has also been reported to predict job-specific stress (Isikhan et al, 2004; Graham et al, 2000), while communication skills training has been established as a salient predictor of burnout among cancer clinicians (Ramirez et al, 1995; Isikhan et al, 2004; Asai et al, 2007).

While some clear trends are thus evident in the international literature, a very limited amount of Australian research has been conducted in this area. To date, only two studies have been located in the published literature, both exploring burnout in samples of oncology nurses (Barnard et al, 2006; Barrett and Yates, 2002). In order to assess the extent to which professional burnout presents within the Australian context, further research was needed to ascertain the prevalence and predictors of burnout and associated psychosocial problems across the full spectrum of cancer care and research personnel, as well as exploring the Australian oncology workforce's perceptions of the causes and precursors of their own burnout (if they report it) and strategies for the prevention of this syndrome.

The need for this research was highlighted by the Research Committee of the Clinical Oncological Society of Australia (COSA), which in 2006, identified the need to determine the extent of professional burnout among those contributing to cancer care and research in Australia. The Centre for Health Research and Psycho-oncology (CHeRP) was commissioned to undertake the survey, with funding from Cancer Australia. This report presents the results of this survey, to facilitate discussion within and between COSA and Cancer Australia regarding recommendations to address the issue of burnout in the oncology workforce in Australia.

The specific aims of the survey were to:

1. Assess the prevalence of burnout and psychosocial distress amongst the various professional groups who provide or contribute to cancer care and research in Australia.
2. Explore to what extent selected predictors contribute to the levels of burnout and psychosocial distress, including demographic and occupational factors and communication skills training.
3. Investigate the perceived causes of professional burnout and strategies for preventing or reducing its impact on cancer care personnel.

METHOD

Sample

At the time of survey administration (May 2007), COSA had 1322 financial members, who were eligible to participate in the survey, unless they were: a) no longer employed, b) not working in the field of cancer care, or c) on leave from their current position.

Procedure

All members of COSA (N=1322) were sent a letter from the COSA secretariat advising them of the upcoming survey and asking members to contact COSA directly should they wish not to receive any further information about the study. The contact details of members who did not contact the COSA office were sent to CHeRP; and two weeks later, CHeRP sent invitation letters to those 1157 members. Information was sent via email to the majority (n=1059), or by post for the minority (n=98) who were not contactable by email. The letter/email provided detailed information about the study, a URL for accessing the web-based survey, as well as a personal log-in and password. The letter to the "postal members" also included a slip to return to the researchers should they wish to receive a hardcopy of the survey. Three reminders were sent to non-responders at 2, 3 and 6 weeks after the date of the initial invitation letter. The second reminder to "postal members" also included a hardcopy version of the survey. In order to optimise response rates, information about the study and a brief progress report was included in the COSA newsletter before and during data collection.

Measures

The instrument used (see Appendix A) was compiled by the research team and pilot tested with a small number of oncologists, nurses, and allied health professionals, to ensure relevance and acceptability by these representatives from the main participant groups. The confidential and anonymous survey assessed the following areas:

Demographics and work factors

Items included age, gender, occupation, qualifications, work location, experience in current occupation and cancer care, extent of patient contact, workload (paid and unpaid) as well as leave information during the previous 12 months.

Communication Skills Training
The respondents' exposure to, and perceived current need for, communication skills training was assessed by four items developed for this study.

Burnout
The standardised Maslach Burnout Inventory was used to assess levels of professional burnout. The Human Services version (MBI-HSS) (Maslach and Jackson, 1986) was administered to participants with patient contact. The MBI-HSS consists of 22 items using a 7-point Likert scale, measuring three sub-scales of burnout; Emotional exhaustion, Depersonalisation, and Personal accomplishment (Table 1). The General Services version (MBI-GS) (Schaufeli et al, 1996) was administered to respondents without patient contact. The MBI-GS consists of 16 items using a 7-point Likert scale, measuring three sub-scales of burnout closely related to those of the MBI-HSS; Emotional exhaustion, Professional efficacy, and Cynicism (Table 2).

Table 1: Characteristics associated with the sub-scales of the MBI-Human Services Survey

Sub-scale	Characteristics
Emotional Exhaustion (Range: 0-54)	▪ Assesses feelings of being emotionally overextended and exhausted by ones work
Depersonalisation (Range: 0-30)	▪ Measures an unfeeling and impersonal response toward patients in ones care
Personal Accomplishment (Range: 0-48)	▪ Assesses feelings of competence and successful achievements in one's work with people

Table 2: Characteristics associated with the sub-scales of the MBI-General Survey

Sub-scale	Characteristics
Exhaustion (Range: 0-6)	▪ Measures exhaustion in relation to ones work without reference to emotions or social contact
Cynicism (Range: 0-6)	▪ Assesses feelings of indifference or distant attitude towards work
Professional Efficacy (Range: 0-6)	▪ Assesses feelings of competence and successful achievements in one's work with a special focus on expectations of continued effectiveness at work

A global measure of burnout is derived by summing the item scores on the three sub-scales, with higher levels of burnout being defined as high levels of emotional exhaustion and depersonalisation/cynicism, and low levels of personal accomplishment/professional efficacy.

A single-item measure of self-defined burnout developed by Schmoldt et al (1994) was also included in the survey for all respondents to complete. The purpose of this item was to provide a brief screening tool to filter respondents for the 'Causes of burnout' item, as well as for validation purposes against the standardised and widely used MBI. The item consisted of a single question asking respondents to define their own level of burnout using five response categories, which were then categorised by the researchers into "Low", "Moderate" or "High" burnout (see Table 3).

Table 3: Categorisation of responses on the self-defined burnout scale

Category	Scale item
Low	▪ I enjoy my work. I have no symptoms of burnout.
Moderate	▪ Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.
High	▪ I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion. ▪ The symptoms of burnout that I'm experiencing won't go away. I think about frustration at work a lot. ▪ I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.

Causes & Prevention of Burnout

Respondents with moderate or high burnout levels, as assessed by the 'Self-defined burnout Item', were asked to nominate the three most important factors contributing to their feelings of burnout, in an open-ended item, "Causes of burnout".

All respondents were asked to nominate three recommendations regarding strategies that could be implemented to prevent professional burnout in their own occupation, in an open-ended item, "Prevention of burnout".

Psychiatric morbidity

The 10-item Kessler Psychological Distress Scale (K-10) (Kessler et al, 2000) is a brief screening measure of non-specific psychological distress and was included in this survey due to its strong psychometric properties. The scale has been widely used for routine health surveys in Australia, hence, normative data are easily accessible. Each symptom of psychological distress (eg, nervous, restless, depressed) is rated on a 5-point Likert scale according to how often the respondent has experienced the symptom during the preceding 4 weeks. A measure of distress is derived by summing all scores (range 10 to 50). As recommended by the Australian Mental Health Outcomes and Classification Network, the scores were categorised as low (10-19), moderate (20-24), high (25-29), or very high (30-50). All respondents completed this measure.

The 12-item General Health Questionnaire (GHQ-12) (Goldberg and Williams, 1988) is a well validated and standardised measure which assesses non-psychotic psychiatric morbidity. Each symptom (eg, depression, loss of confidence, sleep disturbance) is rated on a 4-point Likert scale and scored as 0 ("not at all" or "the same as usual") or 1 ("rather or much more than usual"), yielding a maximum score of 12. The widely used threshold of 4 or more was applied to define the existence of psychiatric morbidity. The GHQ-12 is widely used in the area of professional burnout, and was included as a measure against which the more psychometrically strong K-10 could be validated. In order to reduce undue burden on respondents, only respondents without patient contact completed the GHQ-12, in addition to the K-10.

Analyses

Initially, descriptive statistics were undertaken to assess demographic characteristics of the sample as well as the prevalence of burnout and psychiatric morbidity.

MBI scores indicating burnout were classified as high on the basis of cut-off points recommended by the developer of the scale. This approach is consistent with that used in other studies.

In order to make comparisons on psychiatric morbidity rates with other research in the area, which almost exclusively has used the GHQ-12 as a measure of distress, a cut-off equivalence

on the K-10 was calculated by examining the scores for a sub-sample of the 96 respondents who completed both scales. The maximum agreement level between K-10 and GHQ-12 was reached by selecting 23 or more for K-10 as the equivalent to the GHQ-12 cut-off of $\geq$4 (kappa=0.61, perfect agreement=89%).

The contribution of various demographic, communication skills and occupational factors to the experience of burnout and psychiatric morbidity was explored by a series of logistic regressions.

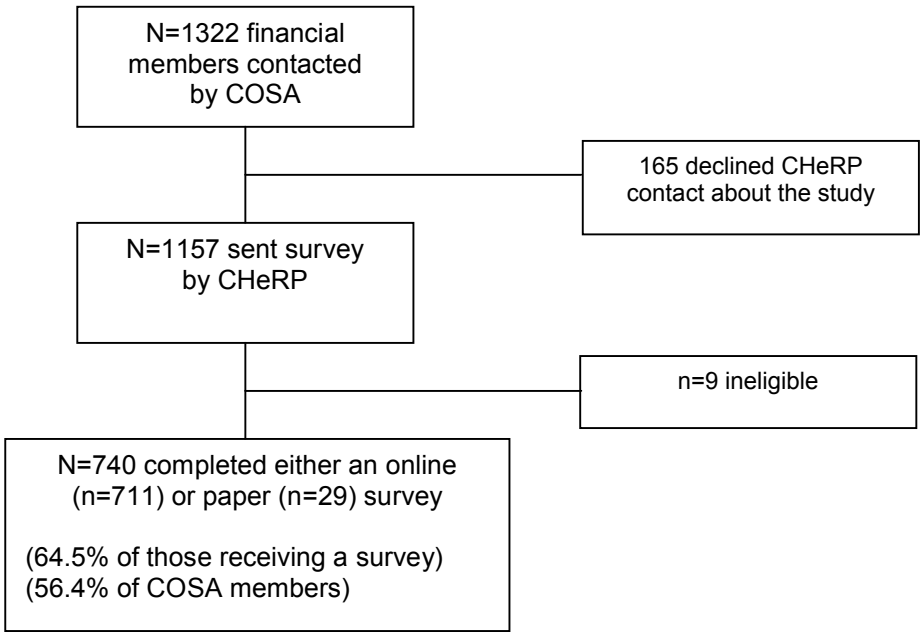
The validity of the single-item burnout scale against full scale MBI scores, and the association between GHQ-12 scores and K-10 scores were calculated using Kendall-Tau b correlation coefficients.

The open-ended responses exploring perceived causes and preventive measures of burnout were qualitatively analysed. Content analysis was performed manually. The data was categorised using inductively derived codes, which were grouped according to emerging domains. Respondents were provided with the opportunity to list up to three issues at each open-ended item, and each comment was allocated up to four codes depending on the complexity of each response. Comments which were too vague or broad to be categorised were excluded from the qualitative analysis. Basic descriptive statistics were calculated on the categorised data to assess frequency of reporting. In order to remove the effect of some respondents listing very similar issues several times, the proportions reported are of the number of respondents making the comment rather than of the number of comments *per se*.

RESULTS

Sample

The total COSA membership as at April 2007 consisted of 1322 people. Of the 1157 members willing to receive the initial survey invitation from CHeRP, 9 were ineligible and 740 completed the survey, providing an overall response rate of 56% of the known eligible COSA membership.



Respondent profile

Appendix B provides a detailed breakdown of the demographic and occupational characteristics of the survey respondents. In summary, respondents were predominantly female (78.5%), with a mean age of 46 years. The majority had a university higher degree (62%) and worked in metropolitan areas (82%). Nurses constituted over half of the sample (53%), 20% were oncologists or palliative care physicians, while other health professionals and research/administration both comprised 12% each of the sample. Respondents had worked an average of 14 years in the area of cancer care, with an average of 13 of these being in their current occupation.

The vast majority of the sample had patient contact (86%), with approximately half the sample spending 50-100% of their time in direct patient contact. The majority of respondents worked between 36-45 hours/week in paid employment (61%), with most engaging in some level of unpaid work as part of their job (86%). For more than half of the sample (58%), this unpaid work comprised 41-100% of their total paid hours. A third of the sample were not very or not at all satisfied with their current leave arrangements for the purpose of preventing or recovering from burnout (30%), and 38% reported having taken at least one 'mental health day' during the previous 12 months.

An assessment of the representativeness of the COSA sample in relation to the total oncology workforce statistics is currently underway.

Prevalence of professional burnout and psychiatric morbidity

Self-defined burnout

As indicated in Table 4, using the single-item self-defined level of burnout, 27.7% of participants reported high levels of burnout, with similar rates for participants with and without direct patient contact. The occupational group with the highest prevalence of burnout was oncologists and palliative care physicians (32%), followed by those in research/administration (29%), nurses (27%), and other health professionals (22%). Due to limited sample sizes, analyses were not conducted for the individual oncology specialty groups (see Appendix B), to ascertain which group experienced the highest level of burnout.

Table 4: Prevalence of self-defined burnout in total sample

	Low burnout		Moderate burnout		High burnout	
	n	***%***	***n***	***%***	***n***	***%***
Total sample (n= 740)	69	9.32	466	62.97	205	27.70
Patient contact						
Yes (n= 638)	48	7.52	410	64.26	180	28.21
No (n=102)	21	20.59	56	54.90	25	24.51
Occupation						
Oncologist/pall care phys (n=151)	11	7.28	91	60.26	49	32.45
Research/administration (n=91)	12	13.19	53	58.24	26	28.57
Nurse (n=393)	34	8.65	251	63.87	108	27.48
Other health professionals (n=91)	10	10.99	61	67.03	20	21.98
Other (n=14)	2	14.29	10	71.43	2	14.29

Burnout according to the MBI

Tables 5 and 6 present the mean scores (M) and standard deviations (SD) for each of the three sub-scales on the two Maslach Burnout Inventories, as well as the proportions of the sample classified as high, average and low according to the cut-off scores suggested by the developer of the scales.

Burnout rates on the Exhaustion/Emotional Exhaustion sub-scales were similar to those measured by the self-defined single-item burnout scale, with a slightly higher proportion of high burnout in those with patient contact (33%), compared to those without patient contact (27%). Less than 10% of those with patient contact exhibited high Depersonalisation, while 27% of those without patient contact scored high on the comparable construct of Cynicism. Both sub samples scored high on Personal Accomplishment (57%) and the related Professional Efficacy (49%).

Table 5: Prevalence of burnout in those with patient contact as measured by MBI-HSS

	Emotional Exhaustion[1] N=622		Depersonalisation[1] N=622		Personal Accomplishment[2] N=621	
	M=21.3, SD=19.5		M=4.66, SD=5.10		M=38.5, SD=6.43	
	n	**%**	**n**	**%**	**n**	**%**
High	204	32.80	61	9.81	352	56.68
Average	160	25.72	94	15.11	177	28.50
Low	258	41.48	467	75.08	92	14.81

[1] High scores indicate higher levels of burnout; [2] Low scores indicate higher levels of burnout

Table 6: Prevalence of burnout in those without patient contact as measured by MBI-GS

	Exhaustion[1] N=101		Cynicism[1] N=102		Professional Efficacy[2] N=102	
	M=2.26, SD=1.54		M=1.47, SD=1.25		M=4.58, SD=1.17	
	n	**%**	**n**	**%**	**n**	**%**
High	27	26.73	28	27.45	50	49.02
Average	16	15.84	21	20.59	26	25.49
Low	58	57.43	53	51.96	26	25.49

[1] High scores indicate higher levels of burnout; [2] Low scores indicate higher levels of burnout

Psychiatric morbidity

The proportion of the COSA respondents with moderate to severe levels of psychiatric morbidity (11.23%) was comparable to the Australian general population (12.6%; Australian Bureau of Statistics, 2001), as measured by the K-10.

Predictors of professional burnout (MBI) and psychiatric morbidity

In order to identify the individual factors which were associated with high levels of burnout, as defined by the MBI sub-scale scores, and the presence of psychiatric morbidity, a series of logistic regression analyses were conducted. Independent variables tested in the models are presented in Table 7.

Table 7: Independent variables tested in logistic regression models

Variable	Regression model
Gender	All (MBI-HSS, MBI-GS, self-defined burnout, K-10)
Age	All
Location (rural/remote, metropolitan)	All
Occupation grouping	All
Years experience (current occupation)	All
Years experience (cancer care)	All
Unpaid hours as % of paid hours	All
Leave satisfaction (satisfaction with leave to prevent or recover from burnout)	All
Hours of direct patient contact	All
Need for Consultation Skills Training (CST)	MBI-HSS
Recency of last CST	MBI-HSS
Self-defined burnout	K-10

Predictors of burnout: Participants with direct patient contact (MBI-HSS)

As indicated in Table 8, high levels of emotional exhaustion were significantly associated with having high levels of patient contact (≥31 hours per week); being dissatisfied with one's leave arrangements to prevent or recover from burnout; and reporting a moderate to high need for CST.

Table 8: Factors associated with high levels of 'Emotional Exhaustion' on MBI-HSS (n=615)

Variable	n	Odds Ratio (95% CI)	p
Age			.072
40-49	219	---	
≤39	164	1.64 (1.00-2.67)	
50-59	183	1.26 (0.78-2.03)	
≥60	49	0.60 (0.25-1.43)	
Leave satisfaction			<.001
Quite/very satisfied	240	---	
Somewhat satisfied	175	4.76 (2.78-8.14)	
Not at all/not very satisfied	200	10.71 (6.37-17.99)	
Hours of direct patient contact per week			.002
≤10	124	---	
11-20	163	0.86 (0.47-1.58)	
21-30	158	1.45 (0.81-2.60)	
≥31	170	2.24 (1.26-3.97)	
CST need			.010
No need	163	---	
Some need	308	1.40 (0.86-2.27)	
Moderate/high need	144	2.31 (1.33-3.99)	

Hosmer and Lemeshow Goodness-of-Fit test: p=0.486

Dissatisfaction with leave arrangements and a higher need for CST were also salient in predicting the emotional and cognitive detachment from work, which characterise Depersonalisation. However, results showed that it was only younger (early career) respondents who were at higher risk of feeling detached, and that direct patient contact may indeed have a protective effect, as those with less than 10 hours of patient contact had twice the odds of having high Depersonalisation scores, compared to those with more than 20 hours of contact. Oncologists and palliative care physicians were at considerably higher risk of feeling depersonalised compared to other health professionals.

Table 9: Factors associated with high levels of 'Depersonalisation' on MBI-HSS (n=615)

Variable	n	Odds Ratio (95% CI)	p
Age			.049
40-49	219	---	
≤39	164	2.28 (1.11-4.67)	
50-59	183	0.95 (0.43-2.07)	
≥60	49	0.77 (0.22-2.72)	
Occupation			.001
Other health professionals	76	---	
Nurse	347	1.17 (0.39-3.54)	
Oncologist/pall care phys	142	5.26 (1.58-17.54)	
Research/administration	43	1.69 (0.35-8.23)	
Other	7	1.44 (0.13-16.34)	
Leave satisfaction			<.001
Quite/very satisfied	240	---	
Somewhat satisfied	175	2.23 (0.86-5.74)	
Not at all/not very satisfied	200	6.88 (3.01-15.74)	
Hours of direct patient contact per week			.038
≤10	124	---	
11-20	163	0.19 (0.06-0.59)	
21-30	158	0.62 (0.25-1.56)	
≥31	170	0.62 (0.25-1.54)	
CST need			.067
No need	163	---	
Some need	308	1.22 (0.57-2.62)	
Moderate/high need	144	2.43 (1.05-5.63)	

Hosmer and Lemeshow Goodness-of-Fit test: p=0.851

Consistent with findings for the emotional exhaustion and depersonalisation constructs, respondents dissatisfied with their leave arrangements and a need for further CST were at higher odds of experiencing low levels of Personal Accomplishment, with those never having had any training at highest risk of low accomplishment. Those having received training between 1 and 3 years ago were best placed, suggesting that training on a biennial basis may be the most optimal schedule for promoting feelings of competence and achievement. A moderate amount of patient contact was found to be most beneficial, with results suggesting that lack of sufficient patient contact and associated rewards gained from patient interaction may adversely affect cancer care workers' sense of accomplishment.

Table 10: Factors associated with low levels of 'Personal Accomplishment' on MBI-HSS (n=616)

Variable	n	Odds Ratio (95% CI)	p
Leave satisfaction			.007
Quite/very satisfied	239	---	
Somewhat satisfied	176	0.88 (0.46-1.68)	
Not at all/not very satisfied	200	2.08 (1.20-3.58)	
Hrs patient contact			.001
≤10	124	---	
11-20	162	0.29 (0.15-0.58)	
21-30	158	0.43 (0.23-0.81)	
≥31	171	0.32 (0.167-0.61)	
CST need			.009
No need	164	---	
Some need	308	1.94 (0.99-3.81)	
Moderate/high need	143	3.02 (1.49-6.13)	
CST recency			.022
Never	104	---	
More than 3 yrs ago	154	0.99 (0.52-1.91)	
Between 1 and 3 yrs ago	165	0.40 (0.19-0.83)	
Within the last year	192	0.56 (0.28-1.09)	

Hosmer and Lemeshow Goodness-of-Fit test: p=0.822

Predictors of burnout: Participants without direct patient contact (MBI-GS)

For those without patient contact, high Cynicism was predicted by dissatisfaction with leave arrangements and years worked in the area of cancer care. In fact, respondents dissatisfied with their leave arrangements had 18 times the odds of high cynicism, and those who had worked in cancer care for 21 years or more had 10 times the odds of high cynicism compared to those who had worked in the area for only 6-10 years.

Table 11: Factors associated with high levels of 'Cynicism' on MBI-GS (n=102)

Variable	n	Odds Ratio (95% CI)	p
Years in cancer care			.049
≥21	26	---	
11-20	30	0.37 (0.11-1.26)	
6-10	21	0.10 (0.02-0.58)	
≤5	25	0.26 (0.07-1.00)	
Leave satisfaction			.002
Quite/very satisfied	55	---	
Somewhat satisfied	36	2.98 (1.03-8.66)	
Not at all/not very satisfied	11	18.31 (3.52-95.14)	

Hosmer and Lemeshow Goodness-of-Fit test: p=0.742

Univariate and regression analyses for the Professional Efficacy component of burnout (comparable to the Personal Accomplishment construct) did not reveal any significant associated variables or predictors. While this may suggest that other variables than those assessed in the current survey are contributing to this construct, it is likely to be predominantly an artefact of a limited sample size. Results from the regression on the Exhaustion component of burnout has not been reported due to small cell sizes, and 'leave satisfaction' being the only

remaining significant predictor of Exhaustion. A univariate analysis revealed that these respondents without patient contact were significantly more likely to experience high levels of exhaustion if they were dissatisfied with their leave arrangement (χ^2=44.13, df=2, p=<.0001).

Predictors of psychiatric morbidity: Total sample

In the overall sample, the risk of having moderate to severe levels of psychiatric morbidity were increased by being dissatisfied with one's leave arrangements and having high levels of self-defined burnout. In fact, those with high self-defined burnout had almost 10 times the odd of having moderate to severe K-10 scores, as shown in Table 12.

Table 12: Factors associated with moderate/high levels of psychiatric morbidity (n=737)

Variable	n	Odds Ratio (95% CI)	p
Leave satisfaction			<.001
Quite/very satisfied	303	---	
Somewhat satisfied	215	1.08 (0.46-2.55)	
Not at all/not very satisfied	219	3.98 (1.92-8.25)	
Self-defined burnout			<.001
Low	533	---	
High	204	9.77 (5.38-17.74)	

Hosmer and Lemeshow Goodness-of-Fit test: *p*=0.370

Communication skills training needs

Only the participants whose work involved direct patient contact were asked about CST issues. As summarised in Table 13, more than half had received some sort of CST within the previous 3 years, with local hospitals being the predominant provider. However, almost 1 in 4 reported a moderate or high need for further CST, with the majority reporting a training need in addressing patients' emotional needs. A cross-tabulation revealed that 45% of those with a high need for further CST had never received any training.

Table 13: Communication Skills Training issues reported by participants with direct patient contact (n=638)

Recency of CST received	%
Within the last year	31.35
Between 1 and 3 years ago	26.65
More than 3 years ago	25.08
Never	16.93

Sources of CST	%
Local hospital	29.21
Cancer Council	14.70
University postgraduate course	12.57
National Breast Cancer Centre	12.57
Professional group/conference	10.06
Other	7.16
University undergraduate course	4.06
Private/external agency	4.06
Workplace	3.87
Cancer Institute	1.74

Current need for CST	%
No need	26.57
Some need	50.31
Moderate need	17.14
High need	5.97

Areas of CST needs	%
Addressing emotional issues	69.56
Discussing sexuality issues	44.51
Breaking bad news	43.35
Discussing prognosis	42.97
Discussing palliative care	41.62
Discussing treatment options	28.71
Discussing clinical trials	23.51
Inter-professional communication and conflict management	9.63
Other	7.13
Dealing with families of patients	1.35
Dealing with grief, death and dying	0.77

COSA members' perceived causes of burnout

Respondents with moderate to high levels of self-defined burnout identified factors relating to Job Conditions, Organisational, and Personnel issues as having contributed to their personal feelings of burnout. The results of qualitative thematic analysis identified 10 issues mentioned by the largest proportion of respondents. These are reported in Table 14, with representative quotes illustrating the issues included in Appendix C.

Table 14: Top 10 perceived causes of burnout, as described by respondents (n=204) with moderate to severe levels of self-defined burnout on the single-item burnout scale.

%	Perceived cause of burnout	Domain
32.8	Workload too heavy	Job conditions
22.1	Dissatisfaction with management / administration	Organisational
21.1	Low staffing levels, skill-mix	Organisational
18.6	Unrealistic demands / expectations	Job conditions
16.2	Poor access to, and cover for, leave	Job conditions
14.2	Long working hours, life dominated by work	Job conditions
12.7	Own health, fatigue, coping strategies	Personnel
12.7	Little recognition or acknowledgement	Organisational
12.2	Working with dying or demanding patients	Personnel
12.2	Lack of senior / managerial support	Organisational

Job Conditions

The aspects of job conditions which were perceived to contribute to burnout centred around issues of workload, working hours, access to leave and perceived demands which were considered unrealistic and unachievable.

Almost 1 in 3 of respondents referred to the sheer volume of work being unreasonable. For those who commented in more detail, it referred mainly to clinical work, but some also mentioned workload as being excessive in terms of managerial and administrative work. There was a general sense of not being in control of one's workload and of management not understanding the needs of the employees in regards to what could reasonably be achieved in the timeframe given and with the staffing allocated. A number of respondents expressed frustration at not being able to perform their work as well as they wished due to their workload.

Working long hours *per se* was by many considered to be an important contributor to their burnout, but more importantly was the impact that it had on the personal lives of burned out staff. This referred to the necessity to take work home to get the job done, having meetings after work etc.

The perceived lack of proper access to leave was an important issue. Dissatisfaction with access centred around the lack of "back-up" or cover for leave, which meant that respondents did not feel that the had a real opportunity to take leave without imposing burdens on their fellow staff. For many staff, taking leave also resulted in having to work much harder before and after going on leave, making it an unattractive option.

Struggling to meet perceived demands was a significant contributor to burnout. The issues centred around not being able to meet the expectations of others or self, either due to time constraints, being over-worked or lacking the resources. This referred both to what was perceived as expected by management, patients and peers, as well as what the respondent felt "should" be achieved as part of their role. Such discrepancy between perceived demands and actual achievements resulted in feelings of frustration and powerlessness.

Organisational issues

Some factors perceived as contributing to burnout were concerned with broad organisational issues. Almost 1 in 5 burned out respondents expressed frustration with "system shortcomings" such as perceived poor hospital administration, and the public health system *per se*. Management being seen as non-responsive or lacking understanding of job requirements was another common source of dissatisfaction, with bureaucratic red tape and funding constraints also often mentioned. Within this domain, specific lack of senior or managerial support was mentioned as a direct source of burnout, as were feelings of not receiving the recognition or acknowledgement warranted by one's efforts. This was not limited to appreciation from immediate superiors, but extended to peers and the "system" in general.

A specific complaint relating to organisational management, mentioned by many, related to staffing shortages. This included not having enough experienced, appropriately trained or skilled staff and lack of relief staff.

Personnel issues

While 1 in 8 respondents mentioned their own health or well-being as contributing to their feeling of burnout, it is likely that this factor is a manifestation rather than a cause. Physical symptoms mentioned included chronic fatigue, exhaustion, and insomnia. Some respondents described how these symptoms were perceived as being generated by their own inability to cope effectively with stressors and "let it go" at the end of the work day.

The specific personal demands of working closely with cancer patients also posed a source of burnout for some respondents (most of whom were nurses). In particular, it was the intense psychosocial needs of cancer patients and the respondents' perceived inability to cater for these satisfactorily, which were most often mentioned. Having to continually provide care in an empathetic manner to sick and dying patients was considered by some to exert excessive demands on their personal resources, coupled with a failure to have their grief dealt with properly.

COSA members' recommendations for preventing burnout

Respondents suggested a range of strategies and implementations for the prevention and remediation of burnout in cancer care workers. The10 recommendations proposed by the largest proportion of respondents are reported in Table 15, with representative quotes illustrating the issues included in Appendix D.

Table 15: Top 10 recommendations for burnout prevention (n=688)

%	Recommendations for burnout prevention	Domain
28.5	Improved psychosocial support	Personnel
26.9	Access to, and cover for, leave	Job conditions
26.2	Improved staffing levels	Organisational
22.4	Access to professional development	Job conditions
17.4	Improved team work	Personnel
14.0	Greater recognition of efforts	Organisational
13.9	Managing for burnout	Personnel
11.6	Decreased working hours, greater flexibility	Job conditions
11.3	Access to supervision	Personnel
10.0	Reduction in clinical load	Job conditions

Job Conditions

The remedial actions which respondents felt could be taken to prevent burnout centred around improved leave arrangements, more flexible work arrangements, decreased clinical load and better access to professional development.

Almost half of the top 10 recommended strategies related to job specific improvements aimed at providing a better balance between patient and non-patient time, and between work and private life. One in 3 of all respondents suggested that better access to leave would help prevent burnout. This access was mainly discussed in terms of improved back-fill of staff enabling leave to be taken without associated "guilt" of letting down one's colleagues, compulsory regular leave, increased annual leave, as well as formal acknowledgement of 'mental health days'.

Some respondents called for more flexible conditions, such as real access to part-time work, more family friendly flexibility, as well as improved recognition of unpaid overtime, with time-in-lieu suggested as an acceptable reimbursement. Equally important to respondents was a decrease in patient load, as increased patient-free or "protected" time for other duties, such as research or committee involvement was perceived as paramount.

Almost 1 in 4 of all respondents perceived access to professional development as an important factor in burnout prevention. This included support for, and access to, further study (eg, postgraduate courses), research, professional development (eg, CST, conference attendance), and staff education (eg, in-services). The concept of support and access mostly included leave allowances and financial assistance.

Personnel issues

Many respondents considered attention to a range of human resource aspects as important in preventing burnout. This included the establishment and promotion of formal and informal support networks and teamwork and access to supervision as well as management strategies, which acknowledge and monitor burnout.

Almost 1 in 3 respondents perceived the establishment and access to support networks to be one of the best ways to combat burnout. Recommendations included the availability of formal mentoring or peer support networks, regular and formalised debriefing, access to subsidised counselling by counsellor/psychologist with specialised expertise, as well as the encouragement and promotion of social networks at work through staff social functions etc. Access to regular and on-going clinical/professional supervision within work hours was mentioned by over 10% of all respondents.

Teamwork, networking and prevention of professional isolation were also considered important aspects. Recommendations included improvements in inter-professional communication through scheduled staff and planning meetings, and establishment of multidisciplinary teams. Opportunity to network with colleagues through conference attendance and professional groups was similarly proposed as a valuable tool for preventing burnout.

It was perceived as important that burnout is detected and prevented through proactive management strategies, such as the routine administration of a burnout questionnaire as part of performance appraisal, monitoring of at-risk staff, as well as education seminars dealing with issues of self-care and burnout-prevention.

Organisational issues

Over a quarter of the respondents referred to a larger and more skilled workforce as the primary issue to be addressed in order to prevent burnout. Recommendations ranged from enhanced training and recruitment strategies to funding for more positions and implementations to improve retention of experienced staff.

Many respondents felt that greater professional respect and recognition was needed. This included acknowledgment of the special demands placed on staff working in oncology as well as for the extra efforts and unpaid hours invested by many. It was suggested that recognition could be in the form of positive feedback at regular performance appraisals, to a simple 'thank you' as acknowledgment by senior managers.

DISCUSSION

The current survey of COSA members presented a unique opportunity to explore the occupational health and perceptions of a wide range of clinical and non-clinical cancer care workers. This is the first comprehensive survey of this kind conducted in Australia.

Contrary to other research in the area, which has reported above population-average psychiatric morbidity rates in cancer care workers in both overseas (Elit et al, 2004; Ramirez et al, 1995; 1996; Grunfeld et al, 2000) and Australian samples (Barrett and Yates, 2002), the current survey shows morbidity rates which are comparable to Australian population estimates. The finding that only two factors which were found to predict the presence of psychiatric morbidity were related to burnout (self-defined burnout, and satisfaction with leave arrangements for the purpose of preventing or recovering from burnout) supports the notion of general psychological distress developing subsequent to, and as a result of, the occupational distress characterising burnout, as suggested by Graham et al (2002).

The results of this survey indicate high levels of burnout in Australian cancer workers, with approximately one third of the sample categorised with high burnout. Results were consistent across self-defined burnout and levels assessed via the standardised and validated Maslach Burnout Inventory. These findings are comparable to those reported in overseas (Elit et al, 2004; Ramirez et al, 1995; 1996) and previous Australian studies (Barrett & Yates, 2002; Boyle, 2002) (see Appendix E). However, it is noteworthy that levels of personal accomplishment for those with patient contact were considerably higher than what has previously been reported in the cancer care research in Australia and overseas, indicating that despite feelings of emotional and cognitive exhaustion, Australian cancer care workers in clinical areas achieve high sense of accomplishment and achievement from their work. In comparison to other professional groups, Australian cancer care workers in clinical areas experience similar levels of emotional exhaustion to groups such as teachers, child protection workers, attorneys, and police officers, while faring slightly better than other groups on measures of depersonalisation and personal accomplishment (see Appendix F).

The slightly higher levels of self-defined burnout evident in oncologists, compared to other cancer care workers, corresponds to previous research in the area (Grunfeld et al, 2000; Molassiotis & van den Akker, 1995), suggestive of higher demands placed on this occupational group. Indeed, an Australian workforce survey performed in 2001 showed that many doctors fall into a high risk category where intervention is required to prevent fatigue related errors and for the health of the worker. Surgeons and, in particular, registrars were at increased risk, with an average of 85 hours worked per week (Australian Medical Association, 2001). However, it is not known from the current survey which oncologist specialty groups were at particularly high risk of burnout.

Similarly, exhaustion levels were higher amongst those with patient contact, with levels increasing with increasing time spent in direct patient contact. While this is consistent with previous research (Boyle, 2002; Whippen et al, 1991) indicating that the emotional aspect of caring for sick and dying patients plays an important role in the exhaustion component of burnout, it is likely that it is in fact the feelings of being overloaded through a high patient load, which is mediating the development of burnout, rather than patient contact *per se*. Support for this notion was provided by the current findings, as the depersonalisation component of burnout and the related construct of cynicism was found to be lower in cancer care workers with direct

patient contact, with higher proportions of time spent with patients having a protective, rather than a detrimental, effect. Furthermore, the substantial benefits from a moderate patient load, in terms of increased personal accomplishment, is evidence of the substantial rewards gained from patient interaction.

However, oncologists and palliative care physicians were at significantly higher risk of high depersonalisation, despite engaging in high levels of patient contact, which is indicative of burnout in oncologists and palliative care physicians to some extent being mediated by other job and organisational factors.

The role of organisational and job specific characteristics in the development of burnout was further supported by strong findings of dissatisfaction with leave arrangements as a significant predictor of burnout. Only few researchers have previously examined the contribution of such factors to the development of burnout. However, Ozyurt et al (2006) found that higher number of vacations taken was associated with decreased burnout, and research by Isikhan et al (2004) reported perceived lack of time for family and personal life as contributing to elevated job stress scores. Combined with the current finding of self-defined burnout being higher amongst those engaging in a high proportion of unpaid work as part of their job, it is likely that it is a combination of feeling overloaded with work, a perceived lack of opportunity to relieve this stress through taking time away from work, as well as its combined effect on one's personal life which precipitates burnout. This is consistent with the model of burnout proposed by Linzer et al (2001) based on two large-scale studies suggesting a direct effect on burnout of work-home interference together with background variables such as age and work hours.

For those with patient contact, younger age was in the current sample associated with a slightly increased risk of burnout. This is replicating the findings of the majority of research in the area (eg, Ramirez et al, 1995; Lopez-Castillo et al, 1999; Ozyurt et al, 2006; Del Giglio et al, 2005; Gabbe et al, 2002). It is likely that these findings are due to an attrition effect, whereby those experiencing burnout leave their profession in cancer care early on. This is supported by Grunfeld et al's (2000) findings of burnout being associated with an intention to leave the profession.

One of the most ubiquitous predictors of high burnout levels for those with patient contact was a need for further CST. This is a very important finding given that one in four of the cancer care workers surveyed reported a moderate to high need for further CST, almost half of whom had reported never receiving any training in this area. Furthermore, it was found that oncologists and palliative care physicians experienced considerably more difficulty with daily consultation tasks the higher their perceived need for CST. The importance of ensuring staff access to regular training in this area is further supported by findings of enhanced feelings of competence and achievement amongst those having received training between one and three years ago. These findings replicate those of other studies in the area (Ramirez et al, 1996; Asai et al, 2007), which found evidence of a strong link between CST and personal accomplishment for cancer care workers with patient contact.

The inclusion of the open-ended questions asking respondents to describe the perceived causes of burnout and suggested preventive and remedial strategies ensured a more comprehensive understanding of burnout in the current sample. It also allowed an examination of the issues outside the limitations of a quantitative measure, by exploring the extent to which the selected predictors could be used to adequately describe the aetiology and treatment of burnout.

Overall, the qualitative findings strongly support the quantitative data. Factors surrounding workload and related occupational and system demands were together with poor access to leave, and perceived poor management viewed as the main causes of burnout. This supports similar findings of Whippen (1991), who reported insufficient personal and/or vacation time as one of the main reasons for burnout. Furthermore, research by Webster (2002) and Vachon (1998) suggests that organisational factors such as work overload, administrative and

management issues may result in greater occupational stress in health professionals than emotional issues related to caring for dying patients.

Strategies suggested by respondents for preventing or combating burnout were largely centred around addressing access to psychosocial support, adequate leave, and professional development together with addressing staff shortages. This strongly echoes the message put forward by Mackereth (2005) suggesting that both personal and organisational strategies must be implemented in order to reduce burnout of health professionals. While little previous research has been conducted exploring the effects of "systemic" changes on burnout levels, a growing body of literature documents the benefits of attending to staff psychosocial and training needs (eg, Armstrong & Holland, 2004; Fallowfield et al, 2002; 2003).

In summary, the qualitative and quantitative findings suggest that Australian cancer care workers experience considerable occupational distress similar to cancer care personnel overseas, while possessing high levels of personal accomplishment. Burnout is perceived largely to be an artefact of feeling overworked and unable to take the necessary time off work to prevent, or recover from, burnout with these perceptions strongly supported by the quantitative data. The cancer care workers in the current study believe that strategies for addressing burnout should involve improved access to leave as well as well as attention to staff psychosocial and training needs, with the quantitative results emphasising the importance of regular CST.

Limitations

While the response rates obtained are similar to those reported in other research, hence making prevalence rate comparisons appropriate, caution should be exercised in generalising these findings to the total Australian oncology workforce due to the self-selection bias introduced by the survey methodology. It is possible that those responding to the survey possessed different characteristics from those who chose not to respond. Ideally, future research in this area should involve the collection of objective measures of burnout.

ACKNOWLEDGEMENTS

This work was commissioned by the Clinical Oncological Society of Australia and funded by Cancer Australia. The assistance of both organisations in facilitating the completion of the research is gratefully acknowledged.

In particular, we would like to thank Ms Margaret McJannett and her team for providing access to the COSA membership list; to Professor David Goldstein and other member of COSA Council for their assistance with reviewing the survey; the CHeRP statistician, Christophe Lecathelinais, for undertaking the analyses for this report; the online survey administrators, the University of Newcastle Corporate Information Unit; and most importantly, the members of COSA who took the time to complete the survey.

REFERENCES

Akroyd D, Caison A, Adams RD. Burnout in radiation therapists: the predictive value of selected stressors. International Journal of Radiation Oncology, Biology, Physics 2002;52:816-21.

Armstrong JL, Holland J. Survey of medical oncology fellows' burnout, communication skills, and perceived competencies. Journal of Clinical Oncology 2004;22:8132.

Asai M, Morita T, Akechi T, et al. Burnout and psychiatric morbidity among physicians engaged in end-of-life care for cancer patients: A cross-sectional nationwide survey in Japan. Psycho-Oncology 2007;16:421-428.

Australian Bureau of Statistics. National Health Survey 2001. Canberra: ABS, 2002. (ABS Cat No 4364.0.)

Australian Institute of Health and Welfare (AIHW) & Australasian Association of Cancer Registries (AACR). Cancer in Australia 2001. AIHW cat. no. CAN 23. Canberra: AIHW (Cancer Series no. 28); 2004.

Australian Medical Association. Risk Assessment of Junior Doctor Rosters. Kingston, ACT: AMA; 2001.

Barnard D, Street A, Love AW. Relationships between stressors, work supports, and burnout among cancer nurses. Cancer Nursing 2006;29:338-45.

Barrett L, Yates P. Oncology/haematology nurses: a study of job satisfaction, burnout, and intention to leave the specialty. Australian Health Review 2002;25:109-21.

Boyle FM. Chairman's Report. MOG Newsletter. 2002:1-2.

Del Giglio A, Tucunduva LTC, Garcia AP, et al. Incidence and factors associated with the burnout syndrome among Brazilian cancer physicians. Journal of Clinical Oncology 2005;23:8143.

Elit L, Trim K, Mand-Bains IH, et al. Job satisfaction, stress, and burnout among Canadian gynaecologic oncologists. Gynecologic Oncology 2004;94:134-139.

Fallowfield L, Jenkins V, Farewell V, et al. Efficacy of a cancer research UK communications skills training model for oncologist: A randomised controlled trial. Lancet 2002;359:650-656.

Fallowfield L, Jenkins V, Farewell V, et al. Enduring impact of communication skills training: Results of a 12-month follow-up. British Journal of Cancer 2003;89:1445-1449.

Faragher EB, Cass M, Cooper CL. The relationship between job satisfaction and health: A meta-analysis. Occupational and Environmental Medicine. 2005;62:105-12.

Felton JS. Burnout as a clinical entity: its importance in health care workers. Occupational Medicine 1998;48:237-250.

Gabbe SG, Melville J, Mandel L, et al. Burnout in chairs of obstetrics and gynecology: Diagnosis, treatment, and prevention. Transactions of the annual meeting of the American gynecological and obstetrical society; 12-14 September, 2002; Hotsprings (VA), USA.

Goldberg, D. & Williams, P. A user's guide to the General Health Questionnaire. Berkshire, UK: NFER-Nelson Publishing Co.;1988.

Graham J, Potts HWW, Ramirez AJ. Stress and burnout in doctors. The Lancet 2002;360:1975-1976.

Graham J, Ramirez AJ, Field S, et al. Job stress and satisfaction among clinical radiologists. Clinical Radiology 2000;55:182-85.

Grunfeld E, Whelan T, Zitzelsberger L, et al. Cancer care workers in Ontario: prevalence of burnout, job stress and job satisfaction. Canadian Medical Association Journal 2000;163:166-69.

Grunfeld E, Zitzelberger L, Coristine M, et al. Job stress and job satisfaction of cancer care workers. Psycho-Oncology 2005;14:61-69.

Herschbach P. Work-related stress specific to physicians and nurses working with cancer patients. Journal of Psychosocial Oncology 1992;10:79-99.

Isikhan V, Comez T, Danis MZ. Job stress and coping strategies in health care professionals working with cancer patients. European Journal of Oncology Nursing 2004;8:234-244.

Kash KM, Holland JC, Breitbart W, et al. Stress and burnout in oncology. Oncology 2000;14:1621-33.

Kessler RC, Andrews G, Colpe L, et al. Short screening scales to monitor population prevalences and trends in non-specific psychological distress [paper]. Cambridge, MA: Department of Health Care Policy, Harvard Medical School; 2000.

Kirkcaldy BD, Martin T. Job stress and satisfaction among nurses: individual differences. Stress Medicine 2000;16:77-89.

Lessen DS, Buss MK, Panagopoulos G, et al. Burnout and associated characteristics in oncology fellows. Journal of Clinical Oncology 2005;23:8168.

Linzer M, Visser M, Oort FJ, et al. Predicting and preventing physician burnout: Results from the United States and the Netherlands. American Journal of Medicine 2001;111:170-175.

Lopez-Castillo J, Gurpegui M, Ayuso-Mateos JL, et al. Emotional distress and occupational burnout in health care professionals serving HIV-infected patients: A comparison with oncology and internal medicine services. Psychotherapy and Psychosomatics 1999;68:348-356.

Mackereth PA, White K, Lynch B. Improving stressful working lives: complementory therapies, counselling and clinical supervision. European Journal of Oncology Nursing 2005;9:147-154.

Maslach C, Jackson SE. Maslach Burnout Inventory Manual, 2nd edn. Palo Alto, CA: Consulting Psychologists Press; 1986.

Molassiotis A, van den Akker OBA. Psychological stress in nursing and medical staff on bone marrow transplant units. Bone Marrow Transplantation 1995;15:449-454.

Ozyurt A, Hayran O, Sur H. Predictors of burnout and job satisfaction among Turkish physicians. Quarterly Journal of Medicine 2006;99:161-169.

Ramirez AJ, Graham J, Richards MA, et al. Burnout and psychiatric disorder among cancer clinicians. British Journal of Cancer 1995;71:1263-1269.

Ramirez AJ, Graham J, Richards MA, et al. Mental health of hospital consultants: the effects of stress and satisfaction at work. The Lancet 1996;347:724-728.

Schaufeli WB, Leiter MP, Maslach C, et al. The MBI-General Survey. In: Maslach, C., Jackson, S.E. & Leiter, M.P. (Eds.), Maslach Burnout Inventory Manual, 3rd edn., pp. 19-26. Palo Alto, CA: Consulting Psychologists Press; 1996.

Schmoldt RA, Freeborn DK, Klevit HD. Physician burnout: Recommendations for HMO managers. HMO Practice/HMO Group 1994;8:58-63.

Shanafelt TD, Bradley KA, Wipf JE, et al. Burnout and self-reported patient care in an internal medicine residency program. Annals of Internal Medicine 2002;136:358-367.

Sherman, AC, Edwards, D, Simonton, S, et al. Caregiver stress and burnout in an oncology unit. Palliative and Supportive Care 2006;4:65-81.

Vachon MLS. Caring for the caregiver in oncology and palliative care. Seminars in Oncology Nursing 1998;14:152-157.

Vahey DC, Aiken LH, Sloane DM et al. Nurse burnout and patient satisfaction. Medical Care 2004;42:57-66

Webster J, Kristjanson L. Long-term palliative care workers: more than a story of endurance. Journal of Palliative Care Medicine 2002;5:865-875.

West CP, Huschka, MM, Novotny, PJ, et al. Association of perceived medical errors with resident distress and empathy. Journal of the American Medical Association 2006;296:1071-1078.

Williams ES, Konrad TR, Scheckler DP. Understanding physicians' intentions to withdraw from practice: the role of job satisfaction, job stress, mental and physical health. Health Care Management Review 2000;26:7-19
Whippen DA, Canellos GP. Burnout syndrome in the practice of oncology: Results of a random survey of 1000 oncologists. Journal of Clinical Oncology 1991;9:1916-1920.

Whippen DA, Zuckerman EL, Anderson JW, et al. Burnout in the practice of oncology: Results of a follow-up survey. Journal of Clinical Oncology 2004;22:6053.

APPENDICES

APPENDIX A: SURVEY INSTRUMENT

DEMOGRAPHICS

D1 What is your gender?

Female ❑[1]
Male ❑[2]

D2 What is your age? …… years

D3 What is your highest educational qualification?

TAFE certificate/diploma ❑[1]
Hospital training/College diploma ❑[2]
University degree ❑[3]
Higher degree (postgraduate) ❑[4]
Other ❑[5] Please specify: ……

D4 What is your <u>main</u> place of work?

Rural ❑[1]
Remote ❑[2]
Metropolitan ❑[3]

D5 What is your <u>main</u> occupation?

Nurse	❑[1] →	Nurse specialty:	Acute/inpatient care	❑[a]
Medical oncologist	❑[2]		Ambulatory/outpatient care	❑[b]
Surgical oncologist	❑[3]		Education/research	❑[c]
Radiation oncologist	❑[4]		Community/counselling	❑[d]
Palliative care physician	❑[5]			
Psychiatrist	❑[6]			
Pharmacist	❑[7]			
Social Worker	❑[8]			
Dietician	❑[9]			
Psychologist	❑[10]			
Counsellor	❑[11]			
Other allied health	❑[12]			
Researcher/research staff	❑[13]			
Other	❑[14]	Please specify: ……		

D5 How many years experience do you have working in your current occupation? ……years

D6 How many years experience do you have working in cancer care? ……years

WORK FACTORS

W1 **Total hours per week in paid employment?** …… hrs / wk

W2 **As part of this employment, how many extra (unpaid) hours per week do you work (on average)?** …… hrs / wk

W3 **How many leave days in total (including recreational, sick and other leave) have you taken in the last 12 months?**

0	❑[1]
1-5	❑[2]
6-10	❑[3]
11-15	❑[4]
16-20	❑[5]
21+	❑[6]

Approximately how many days: .....

[If W3 = 0 → skip W4]

W4 **How many of these days would you classify as "mental health days"?** …… days

W5 **How satisfied are you with your current access to leave arrangements for the purpose of recovering from or preventing burnout in your job (eg, personal leave, sabbatical)?**

Not at all satisfied	❑[1]
Not very satisfied	❑[2]
Somewhat satisfied	❑[3]
Quite satisfied	❑[4]
Very satisfied	❑[5]

YOUR FEELINGS OVER THE PAST 4 WEEKS

K The next ten questions are about how you have been feeling in the past 4 weeks. For each question, select the response that is right for you.

In the past 4 weeks;

		None of the time	A little of the time	Some of the time	Most of the time	All of the time
K1	About how often did you feel worn out for no good reasons?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]
K2	About how often did you feel nervous?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]
K3	About how often did you feel so nervous that nothing could calm you down?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]
K4	About how often did you feel hopeless?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]
K5	About how often did you feel restless or fidgety?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]
K6	About how often did you feel so restless than you could not sit still?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]
K7	About how often did you feel depressed?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]
K8	About how often did you feel that everything was an effort?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]
K9	About how often did you feel so sad that nothing could cheer you up?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]
K-10	About how often did you feel worthless?	❑[1]	❑[2]	❑[3]	❑[4]	❑[5]

PC **Do you have direct patient contact as part of your work ?**

Yes ❑[1] Average hours per week in direct patient contact? …… hrs / wk

No ❑[2] [If PC = 1 → skip item GH]

YOUR GENERAL HEALTH

GH Have you recently:

		Better than usual	Same as usual	Less than usual	Much less than usual
GH1	been able to concentrate on whatever you're doing?	❑[1]	❑[2]	❑[3]	❑[4]
		Not at all	No more than usual	Rather more than usual	Much more than usual
GH2	lost much sleep over worry?	❑[1]	❑[2]	❑[3]	❑[4]
		More so than usual	Same as usual	Less useful than usual	Much less useful
GH3	felt you were playing a useful part in things?	❑[1]	❑[2]	❑[3]	❑[4]
		More so than usual	Same as usual	Less so than usual	Much less capable
GH4	felt capable of making decisions about things?	❑[1]	❑[2]	❑[3]	❑[4]
		Not at all	No more than usual	Rather more than usual	Much more than usual
GH5	felt constantly under strain?	❑[1]	❑[2]	❑[3]	❑[4]
		Not at all	No more than usual	Rather more than usual	Much more than usual
GH6	felt you couldn't overcome your difficulties?	❑[1]	❑[2]	❑[3]	❑[4]
		More so than usual	Same as usual	Less so than usual	Much less than usual
GH7	been able to enjoy your normal day-to-day activities?	❑[1]	❑[2]	❑[3]	❑[4]
		More so than usual	Same as usual	Less able than usual	Much less able
GH8	been able to face up to your problems?	❑[1]	❑[2]	❑[3]	❑[4]
		Not at all	No more than usual	Rather more than usual	Much more than usual
GH9	been feeling unhappy and depressed?	❑[1]	❑[2]	❑[3]	❑[4]
		Not at all	No more than usual	Rather more than usual	Much more than usual
GH 10	been losing confidence in yourself?	❑[1]	❑[2]	❑[3]	❑[4]
		Not at all	No more than usual	Rather more than usual	Much more than usual
GH 11	been thinking of yourself as a worthless person?	❑[1]	❑[2]	❑[3]	❑[4]
		More so than usual	About the same as usual	Less so than usual	Much less than usual
GH 12	been feeling reasonably happy, all things considered?	❑[1]	❑[2]	❑[3]	❑[4]

[If PC = 2 → skip item BH]

YOUR FEELINGS RIGHT NOW

BH Please select the response, which best corresponds to the way you feel **right now**. For each question, select the **one** answer that is right for you.

		Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
BH1	I feel emotionally drained from my work.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH2	I feel used up at the end of the day.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH3	I feel fatigued when I get up in the morning and have to face another day on the job.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH4	I can easily understand how my patients feel about things.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH5	I feel I treat some patients as if they were impersonal objects.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH6	Working with people all day is a strain for me.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH7	I deal very effectively with the problems of my patients.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH8	I feel burnt out from my work.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH9	I feel I'm positively influencing other people's lives through my work.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 10	I've become more callous toward people since I took this job.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 11	I worry that this job is hardening me emotionally.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 12	I feel very energetic.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 13	I feel frustrated by my job.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 14	I feel I'm working too hard on my job.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 15	I don't really care what happens to some patients.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 16	Working with people directly puts too much stress on me.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 17	I can easily create a relaxed atmosphere with my patients.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 18	I feel exhilarated after working closely with my patients.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 19	I have accomplished many worthwhile things in this job.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 20	I feel like I'm at the end of my tether.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 21	In my work, I deal with emotional problems very calmly.	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BH 22	I feel patients blame me for some of their problems.	❑0	❑1	❑2	❑3	❑4	❑5	❑6

[If PC = 1 → skip item BG]

YOUR FEELINGS RIGHT NOW

BG Please select the response, which best corresponds to the way you feel **right now**. For each question, select the **one** answer that is right for you.

		Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
BG1	I feel emotionally drained from my work	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG2	I feel used up at the end of the workday	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG3	I feel tired when I get up in the morning and have to face another day on the job	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG4	Working all day is really a strain for me	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG5	I can effectively solve the problems that arise in my work	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG6	I feel burned out from my work	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG7	I feel I am making an effective contribution to what this organisation does	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG8	I have become less interested in my work since I started this job	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG9	I have become less enthusiastic about my work	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG 10	In my opinion, I am good at my job	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG 11	I feel exhilarated when I accomplish something at work	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG 12	I have accomplished many worthwhile things in this job	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG 13	I just want to do my job and not be bothered	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG 14	I have become more cynical about whether my work contributes anything	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG 15	I doubt the significance of my work	❑0	❑1	❑2	❑3	❑4	❑5	❑6
BG 16	At my work, I feel confident that I am effective at getting things done	❑0	❑1	❑2	❑3	❑4	❑5	❑6

BURNOUT

GB Using your own definition of burnout, how would you rate your current level of burnout? Select the **one** answer that is right for you.

GB1	I enjoy my work. I have no symptoms of burnout.	❑1
GB2	Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.	❑2
GB3	I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.	❑3
GB4	The symptoms of burnout that I'm experiencing won't go away. I think about frustration at work a lot.	❑4
GB5	I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.	❑5

[If GB = 1 or 2 → skip item BC]

CAUSES OF BURNOUT

BC What do you perceive to be the three (3) most important factors contributing to your own feelings of burnout?

1 ……

2 ……

3 ……

PREVENTION OF BURNOUT

BP Anonymous results from this survey will be fed back to various organisations with potential for addressing issues of burnout. On that basis, what three (3) recommendations would you make on strategies that could be implemented to prevent professional burnout in your occupation?

1 ……

2 ……

3 ……

COMMUNICATION SKILLS TRAINING

C1 How long ago did you receive your most recent communication skills training?

Within the last year	❑[1]	
More than 1 but less than 3 years ago	❑[2]	
More than 3 years ago	❑[3]	
Never	❑[4]	[If C1 = 4 → skip C2]

C2 Who (what type of organisation) provided this training?

University undergraduate course	❑[1]	
University postgraduate course	❑[2]	
Cancer Council	❑[3]	
National Breast Cancer Centre	❑[4]	
Local hospital	❑[5]	
Other	❑[6]	Please specify: .....

C3 What is your current need for further communication skills training?

No need	❑[1]	[If C3 = 1 → skip C4]
Some need	❑[2]	
Moderate need	❑[3]	
High need	❑[4]	

C4 What content areas would you value training in? *(tick all that apply)*

Addressing emotional issues	❑[1]	
Breaking bad news	❑[2]	
Discussing treatment options	❑[3]	
Discussing clinical trials	❑[4]	
Discussing prognosis	❑[5]	
Discussing sexuality issues	❑[6]	
Discussing palliative care	❑[7]	
Other	❑[8]	Please specify: ....

FEEDBACK REQUEST

F Do you wish to receive a summary of the results, when they become available?

- ❑[1] No
- ❑[2] Yes, please forward results to the email address to which this survey was sent
- ❑[3] Yes, please forward results to the following email **or** postal address;

Email: …….

Postal address: …….

…….

State: …….. Postcode: ……

Thank you for your time. You have now completed the survey.

Please press 'Submit' to send your completed survey to the Research Team.

SUBMIT

Thank you.
Your survey has been sent to the Research Team.

In the event that the completion of this survey has raised any issues for you or caused any distress, please contact your employers Employee Assistance Program for help.

APPENDIX B: SAMPLE DEMOGRAPHIC & OCCUPATIONAL CHARACTERISTICS OF RESPONDENTS

Characteristics	Survey sample (n=740) *n*		*%*
Gender			
Female	581		78.51
Male	159		21.49
Age (years)	*Mean=45.7 SD=9.9 Range=23-81*		
≤29	43		5.83
30-39	157		21.27
40-49	259		35.09
50-59	218		29.54
≥60	61		8.27
Qualification			
TAFE Cert/Dip	3		0.41
Hospital training/College Dip	88		11.91
University degree	189		25.58
Higher degree	458		61.98
Other	1		0.14
Occupation		N (COSA)	
Nurse	393	739	53.11
Medical oncologist	84	143	11.35
Surgical oncologist	31	83	4.19
Radiation oncologist	28	127	3.78
Palliative care physician	8		1.08
Psychiatrist	4		0.54
Pharmacist	32	50	4.32
Social worker	13		1.76
Dietician	7		0.95
Psychologist	16		2.16
Counsellor	6		0.81
Other allied health	13		1.76
Research, academic, and administration	91		12.30
Other	14		1.89
Yrs in occupation	*Mean=13.3 SD=10.5 Range=1-61*		
≤4	179		24.2
5-10	208		28.2
11-20	179		24.2
21-30	114		15.4
≥31	59		8.0
Yrs in cancer care	*Mean=14.2 SD=8.4 Range=1-42*		
≤4	68		9.2
5-10	234		31.6
11-20	288		38.9
21-30	116		15.7
≥31	34		4.6

Characteristics	Survey sample (n=740)	
	n	***%***
Work location		
Rural/remote	135	18.24
Metropolitan	605	81.76
Hours of paid employment	*Mean=37.9 SD=10.9 Range=0-80*	
Unpaid hrs as % of paid hours		
0	70	9.60
1-10	198	27.16
11-20	202	27.71
21-30	135	18.52
≥31	124	17.01
Hours in direct patient contact	*Mean=24.2 SD=13.5 Range=0-76*	
Proportion (%) of time spent in direct patient contact		
0	102	14.31
1-20	78	10.94
21-40	117	16.41
41-60	158	22.16
61-80	130	18.23
81-100	128	17.95
'Mental health days' take during previous 12 months		
0	447	61.9
1-5	211	29.2
6-10	33	4.6
≥11	31	4.3
Satisfaction with current leave arrangement		
Not at all/not very satisfied	219	29.67
Somewhat satisfied	216	29.27
Quite/very satisfied	303	41.06

APPENDIX C:
Respondent comments about perceived causes of burnout

- Workload too heavy

"Relentless increase in workload and failure of public hospital to recruit more surgeons - lack of funding, colleagues objecting to further recruitment because it would impact on their practice and income."

- Dissatisfaction with management / administration

"Constant infrastructure problems with health service provision and despite being a professional and trained to provide this I cannot influence it - the decisions are constantly made by administrators and accountants who know NOTHING about health delivery and are only interested in balancing 'the books'."

- Low staffing levels, skill-mix

"Shortage of senior medical oncologists to assist with my workload and to provide adequate relief for study and recreational leave."

"The need to support a very junior team whilst carrying a full patient load (and more)."

- Unrealistic demands / expectations

"That I can't meet the psychosocial needs of patients because I have to focus on the chemotherapy and treatment regimes - I don't have space/time/energy/support to treat patients as individual human beings. This is tremendously unsatisfying and I might as well be a robot - a chemotherapy robot."

"Constant attention to the immediate risks and dangers (eg chemo administration to multiple patients) means that I don't have space/time/energy to talk to patients and get a bigger picture about where they're at and what the longer term risks and issues for them might be. This feels dangerous all the time because I know I am probably missing important things, which I could address if I had the time/space/energy to open the conversational doors to manage. If I do manage to open these doors and find out what the pertinent issues to the patient are (which can be serious high risk side effects from chemotherapy, or something as 'benign' as grief, loss and disappointment), I'm not necessarily supported by the organisational structure/doctors/other clinicians (who are all also stretched to their limit) to be able to effectively plan and implement strategies to address issues. It's all go go go, give give give (chemo or other drugs). There's no priority for talking to your patients - the system, the business, doesn't allow for it, let alone facilitate it. I feel I could offer more meaningful care with my nursing knowledge and experience for patients by talking to them and helping them making meaning from their experiences, rather than just giving them poison."

- Poor access to, and cover for, leave

"When I go on leave, I have to work twice as hard before and after."

"No recovery time; holidays, even overseas, are with (a hospital paid) mobile phone by my side and constant contact for decision making."

- Long working hours, life dominated by work

"Working very long hours with limited time off because of the pressure of work meaning there is extremely limited time available to consider service provision with colleagues. To do this means having meetings at night or on weekends and then bringing the family along so the whole weekend isn't taken away from the family."

"I work ridiculously long hours, caring for sick people in an empathetic manner. This is my choice but is definitely not healthy and I am hoping to make some changes."

- Own health, fatigue, coping strategies

"When you are dealing with an emotionally charged area of medicine and you also have your own emotional stuff to deal with it takes a lot out of you."

"My own personality and high degree of empathy - I always give 100% to my patients (as they deserve this), and the result is often feeling very exhausted at the end of a day/week."

- Little recognition or acknowledgement

"Lack of acknowledgment of the unpaid extra responsibilities that I have undertaken for the last 7 years in the job."

"Current workload and perceived lack of recognition for the work done (not just lack of financial recognition eg unpaid hours but also lack of recognition from govt, institutions, peers, the public, etc)."

- Working with dying or demanding patients

"Years of coping with people dying and suffering without ever accessing any type of help to deal with this form of grief. It is thought to be just part of the job in cancer nursing."

"Nature of cancer care and the emotional impact of forming professional long-term type relationships with patients who are often terminally ill."

- Lack of senior / managerial support

"Hospitals do not support their staff - they are regarded as expendable commodities."

"Lack of support by management. Will not engage in reasonable conversations to address problems related to running of area and associated staffing problems."

APPENDIX D:
Respondent comments about strategies for preventing burnout

- Improved psychosocial support

"Recognition of the nature of work in the support of people with cancer and their families and corresponding structures for support of staff eg time out/formal and informal debriefing (acknowledgement of value and burden of work)."

"Access to staff counselling during work hours without being made to feel as though you're not coping. Being encouraged to seek counselling as needed and access being easy for all staff."

"Develop peer support programs for staff to talk about the issues that affect them. Taking into account that burnout can be the product of different things for different staff. It is not always the dealing with terminal patients that is the difficult part of the job, but the culture of the workplace that makes a person feel undervalued or under appreciated. Part of peer support is to gather experienced staff together to assist other staff in developing coping strategies and develop mentoring partnerships. Understanding why we choose to stay in the area of oncology for so many years and how we cope with the emotional side is important."

- Access to, and cover for, leave

"Appropriate relief available to cover my leave -my role is not relieved while I am on leave so need to take leave over January (which suits) as clinics etc closed. Need to work extra hard to organise things during my leave and catch up on my return."

"More annual leave. Four weeks has to be split up to cater for school holidays and does not enable you to both fulfil your role as a mother & as the carer of elderly relatives (which saves the government a fortune) and also have a rest yourself, leading to a chronic burden of overwhelming workloads at both work & home."

"Increase availability to be able to take annual leave days (or 'mental health days') when feeling particularly burnt out. Many nurses now take sick days when feeling stressed or they have just had enough as there is no access to these days."

- Improved staffing levels

"Addressing the broader issues of recruitment and retention of dedicated oncology staff will improve morale of staff on the unit and when appropriate staffing numbers are maintained it can assist to ensure quality patient care is given at all times."

"Support of infrastructure to ensure skilled workforce so that patient care is safe and not dependant on a skilled minority."

"Employ more staff, build in strategies to retain staff, the problem in healthcare is that taking a 'mental health day' means leaving your colleagues more stretched, strategies such as relaxation exercises are all well and good but don't get to the root cause of the problem. It's a question of a culture shift. Encourage management to replace staff quicker, lengthy gaps to recruit are frustrating to staff on wards, appear to be a money saving tactic, and just apply more pressure to staff covering the gaps."

- Access to professional development

"Paid study leave in' blocks' of leave-further education is essential, however I find it very stressful trying to grasp difficult new concepts while working full time and trying to give my best to my patients."

"Individuals must maintain intellectual stimulation and organisations must provide the opportunity for individuals to have time to develop/pursue intellectual activities within the context of a clinically/emotionally demanding role."

- Improved team work

"Multidisciplinary meetings to encourage more cooperation and understanding between the professions."

"Opportunities to build teams outside of the work environment eg work-funded strategic planning retreats where you work as well as have fun as a team."

- Greater recognition of efforts

“Genuinely acknowledging effort: newsletters / awards / prizes / letters of commendation / even movie tickets for 'smaller' but contributory effort.”

“More recognition from management as to the contribution made by nursing staff and the emotional challenges faced by staff working in this area with high death rates. Currently this is never acknowledged and contributes to feelings of lack of worth.”

“Give regular feedback, nurses working with patients need to have regular debriefing and confirmation that they are providing excellent care – that’s why appraisals are so necessary but they are continually postponed and given no consideration by managers as strategic tools for confirming workers worth and giving them positive feedback.”

- Managing for burnout

“Senior management need to be aware of the signs of burnout and be proactive rather than reactive to potential burnout in their organisation. An example could be workplace training on looking for signs and symptoms in your colleagues.”

“Appropriate support to cover MANDATORY mental health days - biannual self care workshops to assist staff identify and deal with symptoms of burnout.”

“Initiate awareness and educational programs on burnout or any other appropriate health related topic, which will prevent burnout, for example a lack of work related knowledge can cause stress/burnout. These issues should also be observed and identified during appraisals.”

- Decreased working hours, greater flexibility

“Acknowledge overtime for nurses. Too often we feel like it is out duty to work overtime without getting paid for it as patients or our fellow workers will suffer if we don't. I think this extra unrecognised time is what contributes to burnout. Where I work we can't leave until the last patient leaves and that can often be anything up to 1-1 1/2 hours past finishing time. It seems doctors don't care, management don't care & we are the mugs who just do it!”

“Flexible working practice/time in lieu. Often times when it is important staff be available to their patients after their working hours and also times when full time staff would like to be able to attend family events especially kids school events. Hard sometimes to get the balance between work and home.”

- Access to supervision

“Provide nurses with access to a trained clinical supervisor, could be a psychologist linked to cancer services or a trained peer from a different area health but one who understands the demands of the role.”

“Clinical supervision should be mandated and provided by employer, especially for those in autonomous roles, but ideally for all nursing staff.”

“Increased resources to better manage workflow. Clinical supervision be mandatory within the workplace, to improve staff morale by providing a safe and nurturing environment where staff feel supported in discussing clinical issues or problems that may have arisen during the week.”

- Reduction in clinical load

“Allow staff more 'down time' during the day. It would allow for those extra tasks such as preparing in services/lectures/committee involvements to be completed in work time rather than using non-work time.”

“Adequate staffing ratios. Include patient psychological needs and support, not only 'clinical' care in a patient care plan. These patients need 'talk' time not only care for physical needs.”

APPENDIX E:
Comparative prevalence rates for burnout and psychiatric morbidity in cancer care workers

Investigators (year), nationality	Study sample	Prevalence rates	
Asai et al (2006), Japan	697 oncologists, palliative care physicians	High Emotional Exhaustion (EE): 22% High Depersonalisation (D): 11% Low Personal Accomplishment (PA): 62% Psychiatric morbidity (GHQ-12): 20%	
Ramirez et al (1995), UK	393 oncologists, palliative care physicians	High EE: 31% High D: 23% Low PA: 33% Psychiatric morbidity (GHQ-12): 28%	
Elit et al (2004), Canada	35 gynaecologic oncologists	High EE: 34% High D: 14% Low PA: 32% Psychiatric morbidity (GHQ-12): 26%	
Barrett & Yates (2002), Australia	243 oncology nurses	High EE: 37% High D: 11% Low PA: 20% Psychiatric morbidity (GHQ-12): 28%	
Grunfeld et al (2002), Canada	681 cancer care workers (oncologists, allied health providers, support staff)	High EE: 53% High D: 22% Low PA: 48% Psychiatric morbidity (GHQ-12): 25%	Oncologists
		High EE: 37% High D: 4% Low PA: 54% Psychiatric morbidity (GHQ-12): 10%	Allied health
		High EE: 30% High D: 5% Low PA: 31% Psychiatric morbidity (GHQ-12): 9%	Support staff

APPENDIX F:
Comparative prevalence rates for burnout in other professions

Reference (year), nationality	Study sample	Prevalence rates
MBI - HUMAN SERVICES SURVEY		
MBI Manual 3rd Ed. (1996), US	1104 Physicians, nurses	EE: M=22.19, SD=9.53 D: M=7.12, SD=5.22 PA: M=36.53, SD=7.34
MBI Manual 3rd Ed. (1996), US	4163 School teachers	EE: M=21.25, SD=11.01 D: M=11.00, SD=6.19 PA: M=33.54, SD=6.89
MBI Manual 3rd Ed. (1996), US	1538 Social workers, child protection workers	EE: M=21.35, SD=10.51 D: M=7.46, SD=5.11 PA: M=32.75, SD=7.71
MBI Manual 3rd Ed. (1996), US	730 Mental health workers	EE: M=16.89, SD=8.90 D: M=5.72, SD=4.62 PA: M=30.87, SD=6.37
MBI Manual 3rd Ed. (1996), US	2897 other professions*	EE: M=21.42, SD=11.05 D: M=8.11, SD=6.15 PA: M=36.43, SD=7.00
MBI - GENERAL SURVEY		
MBI Manual 3rd Ed. (1996), Canada	310 hospital managerial staff	Exhaustion (E): M=2.55, SD=1.40 Depersonalisation (D): M=1.32, SD=1.06 Professional Efficacy (PE): M=4.73, SD=0.88
MBI Manual 3rd Ed. (1996), Canada	609 hospital clerical staff	E: M=2.70, SD=1.56 D: M=1.92, SD=1.35 PE: M=4.54, SD=1.03
Schaufeli et al (1995), Holland	956 Civil servants	E: M=1.57, SD=1.11 D: M=1.54, SD=1.07 PE: M=4.14, SD=0.96

EE = emotional exhaustion
D = depersonalisation
PA = personal accomplishment

M = mean
SD = standard deviation

* sample include legal aids, attorneys, police and probation officers, ministers, librarians, and agency administrators.