

# Burnout among physicians and nurses working in oncology

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## KEY WORDS

Organizational burnout; oncology; health care workers

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Burnout; oncologia; personale sanitario

## SUMMARY

**Background:** *The phenomenon of Burnout is an important occupational problem which affects those working in the "helping professions" to a greater degree since they have continuous and constant contact with suffering patients. Aims: We aimed to assess the Burnout level and its correlation with organizational stressors. Methods: The aim was achieved through administration of a questionnaire, the organizational check-up survey (OCS) among 80 physicians and 102 nurses working in a cancer institute. Results: The results showed significant levels of Burnout (Exhaustion and Cynicism) associated with perceived discrepancy between the worker's values and those promoted by the hospital management, mainly among longer serving staff; work overload reported by staff working in the intensive care and medical oncology departments; lack of recognition reported by permanent staff and also those who had no contact with the patients. Conclusions: The study confirmed the multiple factors involved in the phenomenon of Burnout and the usefulness of the OCS tool for the diagnosis and management of Burnout via appropriate intervention programmes. Furthermore, it also seemed to confirm the need to pay particular attention to the wellbeing of health professionals working in care and treatment of cancer patients via individual measures associated with other organizational measures.*

## RIASSUNTO

**«Il burnout di medici e infermieri che lavorano in ambito oncologico».** **Introduzione:** *Il fenomeno del burnout è un problema occupazionale importante e colpisce in maggior misura gli operatori che svolgono le "professioni d'aiuto" dove il contatto con persone che soffrono è continuo e costante. Obiettivi e Metodi:* *Lo scopo principale dello studio è di rilevare i livelli di burnout su 80 medici e 102 infermieri che lavorano in Istituto Oncologico. Altro obiettivo dello studio è quello di valutare attraverso lo strumento "Organizational Check-up Survey" (OCS) eventuali stressors organizzativi e la correlazione tra questi e le dimensioni del burnout (Esaurimento Emotivo, Disaffezione e Inefficacia Professionale). Risultati:* *Si rileva la presenza di significativi livelli di burnout (Esaurimento e Disaffezione) che sono correlati ad una sensazione di discrepanza tra i propri valori e quelli che persegue*

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*l'organizzazione, in particolar modo per il personale con più anzianità di servizio; si rileva inoltre un sovraccarico lavorativo avvertito dal personale dei reparti di area critica e oncologia medica e uno scarso riconoscimento avvertito dal personale che lavora con contratti a tempo indeterminato e che non è a contatto con il pubblico. Conclusioni: Dallo studio è confermata la molteplicità di fattori implicati nel fenomeno del burnout e l'utilità dello strumento Organizational Checkup Survey per la diagnosi e la programmazione di interventi di gestione del burnout. Sembrava inoltre confermata l'esigenza di una particolare attenzione al benessere degli operatori sanitari che lavorano in oncologia con interventi individuali associati ad altri di tipo organizzativo.*

## INTRODUCTION

Burnout is a particular syndrome caused by work-related stress which has been identified in many social and health care contexts (5-7, 9, 30). The term "burnout" was first used in the fields of social and health care to indicate a combination of symptoms such as attrition, exhaustion and depression found in American social workers. Later it was defined by Maslach as a syndrome characterized by three stages (22).

The first stage is Emotional Exhaustion (EE) resulting from the work carried out, the second is depersonalization (DP) of the relationship with the patients, which is manifested through feelings of indifference and cynicism. The last stage is reduced Personal Accomplishment (PA) or rather the subject's overriding sensation of a decrease in their ability and their success.

The phenomenon of Burnout is mainly attributed to the category of professionals who work in the so-called "helping professions" where contact with persons who are suffering is continuous and constant.

However, over the years it has become necessary for Burnout to be considered a phenomenon associated with any kind of profession, notwithstanding the fact that greater scientific attention continues to be paid to those who are in the "helping professions", for whom the objective risk of developing negative psychological outcomes due to their work remains high.

Moreover, it should be noted that the negative effects of Burnout not only involve the individual but also the patient, with a negative influence on the quality of the care and treatment provided (10).

Among the helping professions, those employed in the field of oncology (physicians and nurses) are

generally considered to be at a high risk of developing Burnout (9, 10, 13, 16, 30).

Thus it seems evident in many studies that the experience of highly stressful situations (e.g. in oncology the constant relationship with the chronically or terminally ill and the specific characteristics of the illness and of cancer treatment), constitutes a necessary but not sufficient condition for the development of negative psychological outcomes, such as Burnout, for which some socio-personal variables and some organizational stressors are other key components (2, 14, 20).

It is recognized that Burnout has a multifactor pathogenesis, involving individual as well as organizational variables, which vary in their influence according to the studies undertaken.

In the study of the possible causes of Burnout it is therefore essential to include an analysis of the organizational context in which the individual works. The structure and functioning of the social environment shape the way people interact with each other and how they carry out their work.

Notwithstanding, therefore, that it is the individual who experiences Burnout, the root cause is due to the discrepancy between the person and their work.

Maslach and Leiter (23), on the basis of that finding, developed a new interpretive model of Burnout that focuses primarily on the degree of adaptation discrepancy between the person and their work. According to these authors, the Burnout syndrome is more likely to develop when there is a wide discrepancy between the nature of the work and the character of the person doing such work.

These discrepancies are considered as the most important predictors of Burnout and are experi-

enced in different areas of working life in its organizational context (19, 25).

As reported in the literature, among the principal organizational factors which lead to a higher incidence of Burnout in health care, the most significant are: work overload (3, 14, 10); lack of both economic and social recognition (10, 28); lack of integration in social relationships with colleagues (11, 26); the perceived lack of fairness in the treatment received by the worker (13), the perceived discrepancy between the values of the persons employed and those of the organisation (13, 14, 18), lack of control over their work, including access to training and refresher courses (28, 29).

Regarding the influence of individual variables in the genesis of Burnout in oncology, there does not seem to be unanimous agreement in the literature about the effect of age, gender or type of profession. According to some research articles, older age and longer work experience could be related to a lower degree of Burnout (1, 10), according to others age and work experience are not connected with the development of Burnout (3, 29).

From some studies it emerges that there is no difference as regards gender (1, 17, 29), in others it would seem that women are harder hit, possibly due to the double workload (professional and family) they have to take on (3, 17).

Concerning some specific characteristics of the type of work carried out, it would seem that in cancer wards nurses as a category have a higher risk than others (1); however, other studies point to physicians as the professional category with the highest risk (10).

As regards contact with the patients, there does not seem to be a clear relationship between the number of contact hours with patients and the onset of Burnout, although this has been reported by some authors (9, 13).

Furthermore, it would also appear that having a temporary (not permanent) contract is correlated with an increased incidence of Burnout (31), and that the wards where an increased incidence of Burnout are observed are the palliative, terminal and intensive care units (28).

Given what has been said so far, the main goal of this research was to describe, in the context of

an Italian Cancer Institute, not only the incidence of Burnout, but also the perception that the health care workers have of certain organizational variables. Moreover, we assessed the possible correlations between these variables and Burnout, thereby highlighting the critical points of organization.

Particular attention was paid to socio-demographic variables in order to verify the existence of differences attributable not only to membership of a particular profession (physicians or nurses), but also the different subjective variables between categories (e.g. gender, age, seniority, academic degree, etc.).

The innovative element of the study was the Organizational Check-up Survey (OCS), a tool used for the first time in the field of oncology in Italy.

A further innovative aspect was that this tool enables focusing not only on the individual but also the hospital in which the individual works, allowing for a wider view of the Burnout phenomenon.

## MATERIAL AND METHODS

### Participants

The (OCS) questionnaire was administered to 331 health workers (physicians and nurses) employed by the Regina Elena National Cancer Institute in Rome. Statistical analysis was carried out on the 182 subjects who returned the completed questionnaire (140 returned it without filling it in and 7 were incomplete). The response rate was 55%.

### Procedures

The research required the cooperation of the staff of all the departments of the Regina Elena Cancer Institute, Rome (table 1) mainly represented by pharmacists, psychologists, physicists and epidemiologists with the exception of those belonging to the Department of Business Services.

A psychologist advised the head nurse of each ward on the aims of the research, asking each of them for their cooperation in enlisting the subjects.

The head nurses handed out to every physician and nurse in their department: a letter detailing the research and an informed consent form, a ques-

**Table 1** - Description of departments

Department	Units
Oncological Surgery	Surgery, Gynaecology, Orthopaedics and Urology
Medical Oncology	Oncology, Haematology, Radiotherapy
Prevention and diagnostic oncology	Radiology, Anatomy and Histological Pathology, Gastroenterology and Digestive Endoscopy, Clinical Pathology, Endocrinology, Nuclear Medicine, Oncological Dermatology, Urodynamics
Intensive Care	Anaesthetics, Resuscitation Unit, Intensive Care, Pain Therapy, Palliative Care, Respiratory Physiopathology, Cardiology
Neuroscience and cervico-facial diseases	Neurorehabilitation, Neurosurgery, Neurology, Otorhinolaryngology and Cervico-Facial Surgery

tionnaire (OCS) and an empty envelope to return the questionnaire anonymously to the head nurse. The following week, the psychologist collected the envelopes directly from the head nurse.

This study was discussed and approved by the Local Ethics Committee.

## Tools

The tool used in this research was the Italian version (8) of the Organizational Check-up Survey (OCS), (24). The tool was validated in Italy on a sample of 2704 health care professionals; we will refer to it in the text as Normative Sample.

This consists of a questionnaire comprising four sections which permit investigation of: 1) the three dimensions of burnout described in the introduction (the individual's relationship with his/her work); 2) The areas of working life (the perception that each individual has of work organization; 3) Change (the perception that each individual has of any changes taking place within the facility); 4) the three dimensions called "processes of management" (the areas in which interventions can be made to bring about improvements in work organization).

For this study only the first two parts of the questionnaire were of interest for the investigation. The first, entitled "Relationship with work", gives an estimate of the degree of Burnout in individuals working in the hospital.

This area is assessed by a scale comprised of 16 items rated on a Likert 7-point response scale (0=never to 6=daily), through which we obtained

an estimate of the three specific dimensions of Burnout, redefined in 1998 by Maslach and Leiter: Exhaustion (chronic lack of energy), Cynicism (a distant, uncaring relationship with work) and low Efficacy (low confidence in one's capacity to do high-quality, important work).

A high score obtained from the Exhaustion and Cynicism scales and a low score from the Efficacy scale show greater personal well-being; however, a low score obtained from the Exhaustion and Cynicism scales and a high score from the Efficacy scale is an indicator of Burnout.

The second scale of the OCS, i.e. "Areas of Working Life", explores six specific features of work that research has shown can significantly affect the individual's well-being (23) based on the fact that there is match or mismatch between the characteristics of individual and organizational issues.

This part of the questionnaire consists of 29 items rated on a Likert 5-point response scale (1=strongly disagree to 5=strongly agree). The Areas of Working Life investigated were: Workload (amount of work that must be done in a given time), Control (ability to pick and choose), Reward (social and economic rewards for the individual's contribution at work), Community (quality of the social environment in the hospital), Fairness (evaluating whether the same rules are applicable to everyone in the hospital), Values (what is important for the hospital management and for the staff). Higher scores of the six scales correspond to better integration between the subject and the Hospital.

## Statistics

Descriptive statistics were performed on the characteristics of the participants. Student's t-test was used to compare mean values and Spearman's Rho test was used for all correlation analyses.

Multivariate regression analysis was used to verify the correlation between the most significant outcome variables and other factors or covariates.

The SPSS (18.0) statistical programme was used for all analyses.

## RESULTS

The personal data for the categories of physicians and nurses and the total sample are presented in table 2.

**Table 2** - Sample description

	Physicians 80		Nurses 102		Total	
	No. subjects	(%)	No. subjects	(%)	No. subjects	(%)
<i>Gender</i>						
Male	48	(60%)	31	(30.4%)	79	(43.4%)
Female	32	(40%)	71	(69.6%)	103	(56.6%)
<i>Age (years)</i>						
<26	2	(2.5%)	5	(4.9%)	7	(3.8%)
26-35	24	(30%)	33	(32.4%)	57	(31.3%)
36-45	16	(20%)	32	(31.4%)	48	(26.4%)
46-55	26	(32.5%)	26	(35.4%)	52	(28.6%)
>55	12	(15%)	6	(5.9%)	18	(9.9%)
<i>Education level</i>						
Secondary school	0	(0%)	11	(10.8%)	11	(6%)
High school	1	(1.2%)	67	(65.7%)	68	(37.4%)
Degree	32	(40%)	23	(22.5%)	55	(30.2%)
Post-Graduate	47	(58.8%)	1	(1%)	48	(26.4)
<i>Length of service</i>						
<1 year	8	(9.5%)	8	(7.8%)	16	(8.8%)
1-5 years	25	(31.4%)	40	(39.3%)	65	(35.7%)
6-12 years	13	(16.4%)	8	(7.8)	21	(11.5%)
13-20 years	18	(22.6%)	22	(21.6%)	40	(22%)
>20 years	16	(20.1%)	24	(23.5%)	40	(22%)
<i>Type of work contract</i>						
Temporary	14	(17.4%)	8	(7.8%)	22	(12.1%)
Fixed term	7	(8.7%)	14	(13.7%)	21	(11.5%)
Permanent	59	(75%)	80	(78.5%)	139	(76.4%)
<i>Direct contact with patients</i>						
No	10	(12.5%)	9	(8.8%)	19	(10.4%)
Yes	70	(87.5%)	93	(91.2%)	163	(89.6%)
<i>Department type</i>						
Oncological Surgery	27	(33.8%)	35	(34.3%)	62	(34.1%)
Oncology	19	(23.7%)	21	(20.5%)	40	(21.93%)
Prevention and Oncological Diagnosis	22	(27.5%)	22	(21.6%)	44	(24.2%)
Intensive Care	6	(7.5%)	12	(11.8%)	18	(9.84)
Neuroscience and Cervico-Facial Diseases	6	(7.5%)	12	(11.8%)	18	(9.84%)

### Burnout and areas of working life: Comparison between experimental and normative samples

Compared to the normative sample (NS) the experimental sample (ES) was in a better situation as regards professional efficacy (ES vs NS=27.25 vs 25.57  $p=0.001$ ), while it was in a significantly worse situation as regards the following areas: Exhaustion (ES vs NS=17.34 vs 18.53  $p=0.037$ ), Cynicism (ES vs NS=20.58 vs 21.55  $p$  trend=0.06) and Workload (ES vs NS=16.97 vs 17.73  $p=0.032$ ).

### Comparison between physicians and nurses (table 3)

No differences were found regarding the dimensions of Burnout.

The only statistically significant difference regarded the subjects' perception of a specific aspect

**Table 3** - Comparison between physicians and nurses

	Physicians No.=80	Nurses No.= 102	P value
<i>Burnout (Mean values)</i>			
Exhaustion	16.82	17.74	F=2.248 P=0.427
Cynicism	20.05	21.02	F=0.832 P=0.331
Efficacy	27.80	26.81	F=4.081 P=0.332
<i>Area of working life (Mean values)</i>			
Workload	16.82	17.07	F=0.183 P=0.734
Control	9.47	10.33	F=7.372 P=0.051
Reward	12.39	12.41	F=0.936 P=0.968
Community	15.71	15.39	F=4.795 P=0.645
Fairness	15.59	14.25	F=1.337 P=0.109
Values	11.62	11.35	F=0.302 P=0.611

of organization, i.e., the Control dimension ( $P=0.05$ ). However, with multivariate analysis, there was no significant difference.

### Burnout, areas of working life and socio-demographic variables (table 4)

For the variables gender, age and education, no significant differences were seen for any of the organizational variables or for Burnout. With regard to length of service, two variables were found to be significant with multivariate analysis.

Subjects with longer service seniority seemed to suffer a greater degree of Emotional Exhaustion ( $P=0.037$ ) compared to those with shorter service in the Hospital. Furthermore, it emerged that longer serving staff perceived a greater discrepancy in values between themselves and the organization compared to shorter serving staff ( $P=0.004$ ).

Differences were also seen when comparing staff working in contact with patients with those not working directly with patients. Above all, staff in contact with patients perceived a greater Workload ( $P=0.026$ ), although they felt they had greater Rewards in their work ( $P=0.016$ ), compared to staff who did not have any contact with patients in their work.

As regards the different wards investigated, the only difference between the two groups was related to Workload ( $P=0.002$ ).

Staff in the Department of Medical Oncology and the Intensive Care Unit perceived a heavier Workload than staff in other wards.

The last variable investigated was the type of work contract. The staff who had a permanent contract ( $P=0.029$ ) felt that they had less Rewards from the hospital compared to those on fixed-term contracts or temporary contracts.

### Correlation between burnout and organizational variables

The results show that of the organizational variables, Value was the most strongly correlated with Burnout, in particular "Emotional Exhaustion" ( $r=0.52$ ;  $P<0.05$ ), and "Cynicism" ( $r=0.42$ ;  $P<0.05$ ).

**Table 4 - Burnout, areas of working life and socio-demographic variables**

OCS area (socio-demographic variables)	Mean	SD	P value
<i>Exhaustion (Length of Service)</i>			
<1 year	18.64	6.36	F=2.624
1-5 years	19.82	6.61	P=0.037
6-12 years	16.21	8.90	
13-20 years	15.89	8.31	
>20 years	15.92	7.50	
<i>Recognition (Type of work contract)</i>			
Temporary	15.50	2.95	F=3.060
Fixed term	13.18	2.72	P=0.029
Permanent	12.04	4.13	
<i>Recognition (Direct contact with patients)</i>			
Yes	12.61	3.87	F=5.917
No	10.07	3.85	P=0.016
<i>Work Load (Departments)</i>			
Oncological Surgery	18.31	4.66	F=4.334
Oncology	14.90	3.71	P=0.002
Prevention and Oncological Diagnosis	18.00	4.88	
Intensive Care	14.53	4.88	
Neuroscience and Cervico-Facial diseases	16.65	3.88	
<i>Work Load (Direct contact with patients)</i>			
Yes	16.81	4.66	F=5.076
No	19.50	5.12	P=0.026
<i>Values (Length of service)</i>			
<1 year	12.64	2.76	F=3.951
1-5 years	12.66	3.34	P=0.004
6-12 years	11.21	3.50	
13-20 years	11.45	3.60	
>20 years	10.08	3.08	

In fact, the study revealed that the more people perceive a discrepancy between their Values and those of the hospital management the more they feel engaged with their work and the more physical and emotional energy they have, and vice versa.

Furthermore, it would seem that in this sample, the Control dimension was positively correlated with the "Professional Efficacy" dimension of Burnout ( $r=0.45$ ,  $P<0.05$ ). That is, the more the subject perceives being in control of his/her work the greater the feeling of being more Efficient in carrying it out.

## DISCUSSION

The data in the first part of the questionnaire showed that the sample examined had significantly better levels than the normative sample regarding Efficacy, but significantly worse levels of Exhaustion and Cynicism.

According to the initial assumption of the study, it was expected that in a Hospital that deals exclusively with cancer, which is one of the fields of medicine with an extremely high psychic load, the phenomenon of Burnout would be more pro-

nounced than in other fields of the helping professions. The results confirm the initial assumption and are in agreement with the literature data.

The fact that the Burnout dimension "Efficacy" was found to be in a better position in the experimental sample compared to the reference sample is not in disagreement with the initial assumption. These data could be supported by Maslach's (21) view of Burnout as a sequential process, in which the dimension of Efficacy is the last step of the process.

Following this assumption the process would start with Emotional Exhaustion and if health professionals have no effective resources to cope with exhaustion, then Cynicism develops. Dysfunctional coping strategies deteriorate relationships with patients, and a sense of failure is increasingly experienced so that a sense of low Efficacy gradually develops. (12, 27) The dimension of Efficacy in this sample appeared to remain intact.

Among the socio-demographic variables examined the age variable was not significantly correlated with any subscale of Burnout. These results appear to contrast with most of the data available, although the results are not unique. Secondly, in some studies Burnout was more severe in younger subjects and less severe in older subjects (4). Other studies showed age to be positively correlated with Burnout (15).

It is likely that the small number of subjects in the youngest and oldest groups in the sample examined prevented a more detailed evolution of these data to be studied. The only difference observed between physicians and nurses was the Control dimension, even though it did not reach statistical significance.

In fact, physicians perceived less Control over their work than nurses. This result could be attributed to the fact that physicians, being personally involved in the responsibility of communicating, choosing and deciding on the management of the illness, might be even more liable than nurses to have a sense of lack of Control over their work. This feeling may be due in particular to the unpredictability and other specific features of cancer treatment, such as: greater incurability, inevitability, unpredictability of onset, course and treatment, fre-

quency and intensity of iatrogenic complications. These are all underlying aspects of the stress load specific for health care staff that may interfere with the perception of how each individual has Control over his/her work.

Staff with longer service seniority seemed to perceive a greater degree of Emotional Exhaustion and a greater discrepancy in Values between themselves and the hospital management compared to those with shorter service. From the organizational check-up of this cancer institute it was evident that these two dimensions - Emotional Exhaustion and discrepancy in Values - were strongly correlated.

It is interesting to note that in the facility under consideration, a key parameter for the onset of Burnout, such as "Emotional Exhaustion", was not only connected to the relationship with the cancer patient or the particular features of the illness, but also to an organizational variable, i.e. the imbalance between the Values of the staff and those of the hospital management. This interest is due to the fact that any possible intervention regarding prevention and management of Emotional Exhaustion (a basic parameter for the onset of Burnout), needs to be targeted at a professional category at high risk and not the individual. The intervention also needs to be targeted at the relationship between the individual and the hospital management.

With regard to the variable "contact with patients", the data given in the results might suggest that contact with a cancer patient, while on the one hand involves the operator to a greater extent, constituting a risk factor caused by physical exhaustion (excessive Workload), on the other hand serves as gratification since the operator feels that his/her work is appreciated (increased sense of Reward).

It is interesting to note that the perception of being recognized for their work was lower in staff on a permanent contract compared to those with a fixed-term or temporary contract.

Thus it can be seen that, regardless of any gratification which might ensue from the relationship with the patient, part of work gratification came from the hospital management which, in this case, did not have a policy of incentives or recognition for any professional category. We can speculate that



staff with permanent contracts, with stable and long-term employment, perceive lack of recognition to a greater extent and cannot even find gratification via renewal of a contract (as with staff with fixed-term contracts) or increases in salary (for temporary contracts).

It is not surprising that staff working in the department of Medical Oncology and in Intensive Care felt that they had a greater Workload than those working in other departments.

The Department of Medical Oncology is, in fact, one of the busiest and most challenging in a cancer treatment facility. Whereas Intensive Care is usually one of the departments with a high percentage of workers with Burnout, regardless of whether the assessment is carried out in a cancer hospital or in another type of hospital. Surprisingly those employed in this department, did not complain of Emotional Exhaustion to a different degree than those of other departments, but rather complained of excessive Workload.

In fact, a fairly high Workload factor was distributed across all departments (except for the Medical Oncology Department), but in those departments where there were more severe stress factors due to the special features of cancer as a disease (including continual contact with bad news or the reality of death), this may be perceived as excessive or unacceptable by the staff.

### Limitations

The limitations of this study concern the size of the sample studied. The response rate, although more than 50% of the whole sample and therefore representative of the population under study, did not enable us to have a comprehensive picture of the situation of the hospital investigated.

### CONCLUSIONS

In summary, the most important results emerging from the research were: the presence of significant levels of Burnout (Exhaustion and Cynicism) that were related to a perceived discrepancy between the staff values and those of the hospital

management; the existence of a significant Work Overload situation reported by the staff in the Medical Oncology and Intensive Care Departments. Also, lack of recognition was reported by permanent contract staff who were not in contact with patients.

From the data collected, it appears possible to plan preventive interventions which would address the "specific" characteristics of cancer hospital staff. Such interventions might be aimed primarily at staff training, in particular for those subjects who feel they have an excessive Workload or suffer Emotional Exhaustion. Such training should aim at elaborating emotions associated with contact with cancer patients and with existential topics such as death, grief, loss and unpredictability.

Another intervention might be aimed at defining the values of the staff. This process would permit interventions of mediation, reduction and management of the discrepancy between the values of the staff and the values pursued by the hospital management.

Other interventions should concern work organization so as to achieve a different distribution of the Workload, or the adoption of a policy of incentives and rewards.

In conclusion, this study confirmed the large variety of factors involved in the phenomenon of Burnout and the usefulness of the OCS tool, which is still underused internationally for diagnosis and planning of interventions for the prevention and management of Burnout.

Our research confirms that special attention needs to be paid to the welfare of health care workers employed in cancer hospitals.

NO POTENTIAL CONFLICT OF INTEREST RELEVANT TO THIS ARTICLE WAS REPORTED

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