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Integrated psychological care in head and neck cancer: Views from health care providers, patients, and supports

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Integrated Psychological Care in Head and Neck Cancer: Views From Health Care Providers, Patients, and Supports

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Objectives/Hypothesis: An evaluation by head-and-neck cancer (HNC) staff, patients, and patient support feedback regarding integrated psychological care and perceived benefit based on patient characteristics.

Study Design: Cross-sectional survey of HNC staff, patients, and their primary supports; and retrospective chart review of psychiatric characteristics of HNC patients.

Methods: HNC staff, patients (who were evaluated by the integrated psychologist), and their primary supports were given questionnaires on their perception of benefit of including a psychologist in the evaluation and treatment of HNC patients. Also, a retrospective chart review on patients who were psychiatrically evaluated by the psychologist on sociodemographics and psychiatric characteristics.

Results: Overall, integration of a psychologist was well received by patients, supports, and staff. Younger patients reported greater satisfaction with the availability of the psychologist than older patients ($P = .04$), and patients with reported psychiatric histories (diagnoses in remission) indicated more satisfaction with the psychologist in relation to managing distress than patients who denied psychiatric histories ($P = .03$); however, patients who were currently smoking tended to report lower satisfaction with the psychologist helping with distress than those who were past/never smokers ($P = .06$).

Conclusions: Integrated psychological care has the potential to improve care provided for HNC patients.

Key Words: Anxiety, depression, patient satisfaction, head and neck cancer.

Level of Evidence: Level 4.

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INTRODUCTION

In 2011, there were an estimated 52,140 new cases of head and neck cancers (HNC) in the United States and 11,460 deaths associated with HNC.[1] With the diagnosis of HNC comes the significant threat to life and physical effects of the cancer and its treatment, including possible disfigurement and reduction in quality of life (QOL).[2–6] As such, patients diagnosed with HNC are at increased risk of developing depression and distress and display higher rates of suicide than other cancer populations.[7–11] Distress and other psychiatric characteristics at HNC diagnosis, including substance abuse/dependency, have been associated with increased risk of missing radiation treatment sessions, continued tobacco use posttreatment, and even mortality.[12–17] Given the potentially complex interplay of psychosocial factors and HNC, there has been a call for integrated mental-health care within HNC clinics to address behavioral health issues at diagnosis and through treatment.[18–20] In primary care clinics, integration of mental health care has been associated with reduced disparities in access to care across race, reduced physician billing for mental health, and increased physician satisfaction with patient care.[21–23]

In the modern era of health care, patient preference and satisfaction have become an increasingly important topic because patient satisfaction now affects reimbursement through the Centers for Medicare and Medicaid Services.[24] Practices such as this are partially motivated by research suggesting that higher patient satisfaction is associated with greater adherence to treatment recommendations, increased patient QOL, more patient preventative-health behaviors, and fewer malpractice claims.[25–30] In primary care settings, patients have reported high levels of satisfaction with integrated mental-health services.[22,23,31] HNC patients have repeatedly reported an interest and need for individualized psychological care over the course of diagnosis and treatment.[32–34]

Therefore, the first objective of this study was to report staff, patient, and nonmedical support person's perception of benefit from having an integrated clinical health psychologist, specializing in HNC, who provided integrated care to patients (both inpatient and outpatient), support networks, and the health care team from diagnosis of HNC onward. The second objective was to

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examine whether psychiatric characteristics of HNC patients, based on brief retrospective chart review of the psychiatric evaluation of HNC patients, affected patterns of satisfaction with an integrated clinical health psychologist within an HNC clinic.

MATERIALS AND METHODS

Referral System and Psychological Procedure

When patients are diagnosed with HNC, a multidisciplinary clinic discusses the patient and develops a plan of care (via weekly tumor board meetings). Once a HNC patient is identified, an oncology nurse coordinator schedules the patient with the psychologist. The patient then undergoes a comprehensive, semi-structured psychiatric interview that includes assessment of past medical history, knowledge/understanding of diagnosis and recommended treatments, motivation for treatment, patient-reported history of compliance and barriers to compliance, psychosocial history (e.g., marital status, work history, legal history), support system for treatment, history of psychiatric illness and treatment, current psychiatric symptoms, past and/or current substance abuse/dependency issues, suicidal and/or homicidal history or current intent, family psychiatric history, family substance abuse/dependency history, and a screening of current neurocognitive functioning. Diagnoses were based on criteria of the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR)[35] and additional information as provided, such as the collaboration of psychiatric history from family members or through repeated interactions with the integrated psychologist. Based on the clinical picture, patients are provided immediate feedback and recommendations during the interview. Recommendations are conveyed to the treatment team both verbally and through electronic charting. The clinical recommendations and feedback are based on the likelihood of behaviors posttreatment and empirically validated treatments, but the surgeon dictates ultimate decisions regarding treatment (e.g., whether to delay surgical treatment until the patient completes substance abuse treatment). After the initial evaluation, the psychologist may be called to see a patient at any stage as long as they have a history of HNC. Also, the psychologist provides psychoeducational support and education to treatment staff. For the purposes of the retrospective chart review, data is reported based on the initial evaluation at the time of diagnosis of HNC.

Recruitment

Prior to collecting any data, full institutional review board approval was obtained for both the survey and retrospective chart review components. Patients were eligible for participation in the survey and/or included in the retrospective chart review if they had been diagnosed with HNC and been psychiatrically evaluated by the integrated clinical health psychologist between May 2010 and August 2011. Of the 173 patients identified as eligible, 147 (84.9%) were still alive per medical chart review. In March 2012, of the 147 patients still alive, all were sent both the patient and support surveys to give to their primary support persons. For the patients identified as deceased, the support (reported as the primary support at the time of the psychiatric evaluation) was mailed the survey without the patient survey. If no response was received after 2 months, a reminder letter was sent encouraging the patient and/or support to complete the survey. Also in March 2012, 191 medical personnel were sent a survey evaluating the perceived impact of the psychologist on staff, patients, and non-medical support persons. Medical personnel/staff were eligible if they had a history of either directly or indirectly interacting (e.g., shared a patient but did not speak) with the dedicated psychologist. The survey was uploaded onto an external survey system, and a link to the survey was sent via their work e-mail accounts. To ensure the anonymity of medical personnel, the only information requested was occupation (Table I). E-mail invitations to participate in the survey were sent out twice, approximately 3 weeks apart, to ensure maximum recruitment.

Of the surveys sent to patients and supports, responses were received from 24 patient and support dyads, 13 patient-only responses, and 12 support-only responses. Twenty-eight survey recipients responded but declined completing the survey, 87 did not respond, and 9 surveys were returned due to incorrect addresses. This provided a total of 37 patient (27.2% response rate) and 36 support (20.8% response rate) surveys. Of the 191 HNC medical personnel who received an e-mail invitation to complete the survey, 97 (50.8%) completed the survey. The majority of them were nurses or physician assistants (n = 70, 72.2%) or physicians (n = 14, 14.4%).

Satisfaction Measures

To determine whether staff, patients, and patient supports perceived a benefit from having a psychologist integrated into HNC care, we developed three surveys (one for each group). The surveys were created to assess the same content across different respondent groups. The questionnaires were developed with several relevant subthemes, including perceived availability/accessibility (e.g., "I am comforted knowing I can access a psychologist who specializes in HNC"), effectiveness with distress management and QOL (e.g., "The psychologist helped reduce my level of distress"), impact of help with medical care (e.g., "The psychologist helped bridge communication between me and other members of the HNC team"), and overall satisfaction (e.g., "Psychologist involvement in my care was helpful"). In the patient and support person surveys, there were two additional questions regarding whether respondents would have followed up on an outside behavioral-health referral if an integrated health psychologist had not been involved. Most responses were based on a 5-point Likert scale from 1 "strongly disagree" to 5 "strongly agree"; in addition, there was the option of "N/A" if not applicable/appropriate. Each of the items within these subthemes were summed for a score for each scale.

Analyses

For all data, frequencies were run on sociodemographics, cancer, and psychiatric and survey response data. For survey-related data, the distribution of responses was examined for all individual items. Also, the items on the survey were summed for subtheme scores in order to compare patient responses. To explore whether patient characteristics (e.g., race, gender, psychiatric diagnosis/history) variables suspected to potentially confound perceived benefit would have an influence on reported satisfaction with the psychologist, as prior literature would suggest,[35,36] several analyses were run to compare differences on levels of satisfaction (*t* test, analysis of variance, or Pearson correlation, depending on appropriateness to the data).

RESULTS

During the 15-month period, the psychologist was integrated into the HNC clinic, data was collected, and 173 patients were seen and underwent psychiatric evaluation. The mean age (standard deviation [SD]) was 61.77 years (13.87), mostly male (n = 130, 75.1%), and predominantly Caucasian (n = 118, 68.2%). Additional demographics are

TABLE I.
Patients, Nonmedical Support Persons, and Staff Characteristics.

Demographics/Characteristics	All Patients (N = 173) n (%)	Non-Responders (n = 136) n (%)	Responders (n = 37) n (%)	*P*
Mean age (SD)	Mean 61.77 (SD 13.87)	Mean 62.23 (SD 13.370)	Mean 60.11 (SD 15.66)	.411
Gender				
Male	130 (75.1%)	103 (75.7%)	27 (72.9%)	.730
Female	43 (24.9%)	33 (24.3%)	10 (27.0%)	
Race				
Caucasian/White	118 (68.2%)	87 (63.9%)	31 (83.7%)	.190
African American/Black	50 (28.9%)	44 (32.4%)	6 (16.2%)	
Native American	1 (0.6%)	1 (0.7%)		
Multiracial	1 (0.6%)	1 (0.7%)		
Missing/Not reported	3 (1.7%)	3 (2.2%)		
Relationship Status				
Single	39 (23.2%)	29 (21.3%)	10 (27.0%)	.638
Married/Cohabitating	100 (59.5%)	77 (56.6%)	23 (62.2%)	
Divorced	18 (10.7%)	16 (11.8%)	2 (5.4%)	
Widowed	11 (6.5%)	9 (6.6%)	2 (5.4%)	
Cancer Type				
SCC	154 (90.6%)	121 (88.9%)	32 (86.5%)	.137
Neoplasm	4 (2.3%)	4 (2.9%)	0 (0.0%)	
Melanoma	1 (0.6%)	1 (0.7%)	0 (0.0%)	
Acinic cell	1 (0.6%)	0 (0.0%)	1 (2.7%)	
Other	10 (5.9%)	6 (4.4%)	4 (10.8%)	

Nonmedical Support Person (N = 36) n (%)	
Mean Age (SD)	59.59 (SD 14.30)
Gender	
Male	8 (22.22%)
Female	25 (69.44%)
Did not report	3 (8.33%)

Staff (N = 97) n (%)	
Position	
Physician	14 (14.4%)
Resident/Fellow	7 (7.2%)
Nurse/PA	70 (72.2%)
Specialist (PT/OT/Speech)	2 (2.1%)
Social Worker/Case Manager	3 (3.1%)
Missing/did not report	1 (1.0%)

OT = occupational therapist; PA = physician assistance; PT = physical therapist; SCC = squamous cell carcinoma; SD = standard deviation.

included in Table I. The most common psychiatric pathologies (excluding adjustment disorders; based on DSM-IV-TR[35]) were nicotine-related disorders (n = 38, 16.2%), alcohol-related disorders (n = 27, 15.6%), depressive disorders (n = 18, 10.4%), and dementia (n = 14, 8.1%). Of the 173 patients evaluated, only 29 (16.8%) had no psychiatric history or only an adjustment disorder related to their cancer diagnosis. Twenty-three patients (12.3%) warranted (either alone or in combination) disorders that either require medical intervention (e.g., delirium) or have a relatively low potential to interfere with immediate medical care (e.g., nicotine dependency disorder, a learning disorder). Thirty-seven patients (21.4%) had no current disorder or adjustment disorder, but a history of significant psychiatric illness (e.g., depression, anxiety disorder, substance abuse/dependency). Finally, 84 patients (48.6% of the total sample) displayed symptoms consistent with a current psychiatric disorder that may necessitate current, active

TABLE II.
Patient Psychiatric History as Determined by Semistructured Clinical Interview, N = 173.

	Current		History†	
Diagnosis(es)*	n	(%)	n	(%)
Learning disorders	–	–	1	(0.6%)
Communication disorders	1	(0.6%)	–	–
Delirium	5	(2.8%)	–	–
Dementia	14	(8.1%)	–	–
Other cognitive disorders	9	(5.2%)	1	(0.6%)
Alcohol-related disorders	27	(15.6%)	43	(25%)
Amphetamine (or amphetamine-like related disorders)	–	–	1	(0.6%)
Caffeine-related disorders	–	–	1	(0.6%)
Cannabis-related disorders	10	(5.8%)	6	(3.5%)
Cocaine-related disorders	2	(1.2%)	5	(2.8%)
Nicotine-related disorders	38	(16.2%)	66	(38.2%)
Opioid-related disorders	3	(1.7%)	1	(0.6%)
Polysubstance-related disorders	2	(1.2%)	1	(0.6%)
Depressive disorders	18	(10.4%)	11	(6.4%)
Bipolar disorders	6	(3.5%)	–	–
Anxiety disorders	9	(5.2%)	2	(1.2%)
Somatoform disorders	2	(1.7%)	–	–
Adjustment disorders	128	(74%)	–	–

*As classified by the Diagnostic and Statistical Manual for Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR).
†In remission at time of interview.
– No patients met diagnostic criteria at the time of interview, either currently or from history consistent with the diagnosis. If not listed above, no patients were identified as meeting full DSM-IV-TR diagnostic criteria.

intervention (e.g., depression, anxiety disorder, substance abuse/dependency). Additional psychiatric disorders and a history of psychiatric disorders are presented in Table II.

Of patient survey responders, the mean age (SD) was 60.11 years (15.66), mostly male (n = 27, 72.9% of responders) and predominantly Caucasian/white (n = 31, 83.7% of responders). Of support responders, the mean age (SD) was 59.59 years (14.30), mostly female (n = 25, 69.44% of support responders). Additional characteristics of responders are included in Table I. Analyses were run to determine whether there were any significant differences between patient survey responders and nonresponders on demographic or cancer variables. There were no significant differences (Table I).

Examples of items and responses to the surveys from the HNC patients, supports, and medical staff/personnel are presented in Table IV. Interestingly, regarding the willingness to follow up with outside behavioral-health providers, the majority of patients (66.7%) reported "agree" or "strongly agree" to the statement "I am more likely to follow up with psychiatric services integrated within the HNC team than if referred to an outside behavioral health clinic," whereas a much smaller proportion (30.0%) reported "agree" or "strongly agree" to the statement "If I had been referred to an outside behavioral health clinic by my HNC doctor, I would have followed up." Supports reported similarly, with 72% reporting "agree" or "strongly agree" to the statement "My family member is more likely to follow up with behavioral health services integrated within the HNC team than if referred to an outside behavioral health clinic" and 38.5% reporting "agree" or "strongly agree" to the statement "If the HNC psychologist had not been involved, I or my family member would have sought support from a community behavioral health clinic during diagnosis and treatment."

We examined patient characteristics in relation to satisfaction scores (see Table III for categorical patient characteristics on satisfaction), which were mostly nonsignificant. There was one significant correlation with regard to patient age and satisfaction with availability/accessibility. It appears that younger patients were more satisfied than older patients ($r = -.366$, n = 31, $P = .04$). There were no other significant differences based on age. Regarding a history of a psychiatric diagnosis (e.g., history of depression, which was determined based on reported history of symptoms in remission at the time of diagnostic interview), there was a significant difference on satisfaction with regard to distress and QOL, $t(25) = 4.672$, $P = .03$, where the patient with a prior history of psychiatric diagnoses rated more satisfaction with regard to the psychologist's effect on personal distress/QOL (mean 21.50, SD 2.38) than patients who did not have a psychiatric history (mean 17.30, SD 5.53). A one-way ANOVA used to compare tobacco history (no use, past use, or current use) on patient satisfaction with the psychologist helping with distress and QOL approached significance: $F(2,24) = 3.006$, $P = .06$. Tukey post-hoc comparisons indicated that patients with no history of any use reported significantly higher satisfaction with the psychologist in relation to distress and QOL (mean = 20.11, SD = 3.65) than patients who were actively using tobacco at the time of the evaluation (mean = 12.75, SD = 4.85). There was no difference between either of these groups and a history of past use (mean = 18.00, SD = 5.69). There were no other significant differences on patient satisfaction and tobacco history.

DISCUSSION

The findings of this study indicate that the integration of a psychologist into the HNC team, overall, is very well received by staff, patients, and patient supports. We anticipated that patients with more significant psychiatric histories, particularly those with substance abuse histories, would have rated the dedicated health psychologist less positively because the psychologist frequently made additional treatment recommendations for these patients (e.g., substance abuse treatment). This kind of pattern would be consistent with prior research indicating that certain patient characteristics such as race or substance abuse/dependency diagnosis could negatively impact satisfaction with mental health services.[36,37] However, the findings of this study did not strongly reflect this; there were not many significant differences in responses on perceived benefit based on

TABLE III.
Patient Characteristics on Mean (SD) Satisfaction Scores.

Variable	Availability/ Accessibility	*P*	Helped With Distress/QOL	*P*	Helped With Medical Care	*P*	Overall Satisfaction	*P*
Gender		.97		.83		.18		.81
Male	15.69 (3.94)		18.05 (5.32)		7.71 (1.95)		8.19 (1.97)	
Female	15.75 (3.65)		17.50 (6.02)		6.57 (1.90)		8.00 (1.69)	
Race*		.75		.44		.97		.90
Caucasian	15.60 (4.03)		18.32 (5.33)		7.43 (1.97)		8.12 (1.86)	
African American	16.17 (2.93)		16.20 (5.81)		7.40 (2.19)		8.25 (2.22)	
Cancer Type*		.68		.75		.87		.94
SCC	15.62 (3.64)		17.77 (5.46)		7.43 (1.97)		8.17 (1.88)	
Other	16.50 (5.74)		18.75 (6.34)		7.25 (2.50)		8.25 (2.22)	
History of prior psychotherapy		.42		.78		.86		.94
Yes	16.45 (4.01) 15.30 (3.73)		18.30 (6.33)		7.33 (2.24)		8.10 (1.91)	
No			17.71 (4.92)		7.47 (1.89)		8.16 (1.89)	
History of psychotropic medication use		.13		.36		.43		.14
Yes	16.65 (3.32)		18.86 (4.94)		7.69 (1.66)		8.63 (1.45)	
No	14.57 (4.16)		16.92 (5.82)		7.08 (2.35)		7.54 (2.18)	
Current psychotropic use		.32		.39		.65		.88
Yes	16.38 (3.59)		18.79 (5.22)		7.27 (1.83)		8.19 (1.68)	
No	15.00 (4.02)		17.00 (5.58)		7.61 (2.18)		8.08 (2.14)	
Alcohol abuse/ dependency history		.70		.85		.93		.68
Yes	16.10 (4.51)		17.63 (6.65)		7.38 (2.50)		8.38 (2.20)	
No	15.52 (3.53)		18.05 (4.94)		7.45 (1.79)		8.05 (1.77)	
Illicit substance abuse/dependency history		.44		.18		.31		.66
Yes	14.71 (4.86)		15.00 (7.07)		6.60 (2.61)		7.83 (2.64)	
No	16.00 (3.51)		18.59 (7.07)		7.61 (1.83)		8.22 (1.68)	

*There were not respondents; or there was only one respondent in other categories, who therefore was omitted for analyses.
QOL = quality of life; SD = standard deviation; SCC = squamous cell carcinoma.

patient psychiatric history/diagnosis. The few significant differences observed were not surprising given this patient population. For example, patients who were currently smoking reported less satisfaction with help for distress than patients who had no history of use or past use. Because a frequently cited reason for smoking is to reduce tension/anxiety,[38–41] it is not terribly surprising that when current smokers confront the distressing news of a cancer diagnosis and receive feedback from the psychologist of their need to quit smoking, they subsequently perceive the psychologist as less helpful with distress. However, both patients and their supports indicated that the psychologist was overall helpful in reducing their distress and was a resource for additional information when needed; they felt comforted that a dedicated psychologist specializing in HNC was available and involved in their care.

Equally important to patient responses, medical providers including physicians and nurses reported significant satisfaction and appreciation for having a dedicated health psychologist on staff. Feedback was overwhelming positive that the psychologist was effective in alleviating practitioner distress, necessary to treatment, improved overall patient care, and effective in identifying and managing complex psychosocial issues. Medical personnel also reported they felt all HNC programs should have an integrated mental-health professional. Clearly, integrated health psychologists in HNC treatment can be effective in a variety of ways and should be considered as a necessary member of every HNC practice.

There has been a call for semistructured psychiatric interviews of HNC patients to confirm previously published data from assessment instruments.[42,43] This sample reported a former or current history of psychiatric disorder(s) at substantially higher rates than current prevalence estimates (current lifetime prevalence estimates of any psychiatric disorder is 46.4%).[44] Across the spectrum of psychiatric disorders, rates observed in this sample were different from previously

TABLE IV.
Patient, Support Person, and Staff Responses.

Example Survey Items	% Responded "Agree" or "Strongly Agree"
Patients	
Psychologist involvement in my care was helpful.	75.0%
The psychologist helped reduce my level of distress.	75.0%
I am comforted knowing I can access a psychologist who specializes in HNC.	84.4%
My ability to cope with my medial situation improved as a result of the psychologist treatment.	62.5%
The psychologist helped bridge communication between me and other members of the HNC team.	61.3%
The psychologist helped reduce the level of distress my family/support system experienced as a result of my HNC.	77.4%
Supports	
Psychologist involvement in the care of my family member was helpful.	71.9%
The psychologist helped reduce my level of distress.	71.0%
I am comforted knowing my family member has access to a psychologist who specializes in HNC.	77.7%
The psychologist provided education and helped me better understand my family member's medical situation.	82.2%
Staff	
The psychologist direct involvement in care provides a necessary service to my HNC patients.	90.9%
My HNC patients' abilities to cope with their medical situation improved as a result of the psychologist's treatment interventions.	87.1%
The psychologist helps reduce my patient's level of distress.	82.9%
The psychologist helps reduce the distress of my patient's family/support system.	87.0%
My stress level decreases when the psychologist is involved in my patient's care.	74.3%
The psychologist helps bridge communication between me, the patient, and other members of the HNC team.	78.3%
HNC patient care has improved since the dedicated psychologist was hired.	85.7%
All HNC programs should have a dedicated psychiatric expert involved in their multidisciplinary care.	93.3%

HNC = head and neck cancer.

published studies with HNC patients using standardized assessment instruments.[9,42,43,45] Psychiatric interview remains the gold standard of assessment for determining and differentiating psychiatric disorders.[46–49] However, this type of study should be replicated in other populations to verify whether this is representative of the larger HNC population and not just one clinic's population.

This study has several limitations. First, patient and support survey responses were low, thereby limiting generalizability of some of the findings. Although we accounted for mortality, the reason for such a low responses rate is unknown. Second, this is a retrospective evaluation by patients and supports during a very emotionally charged period in their lives, which may have affected their responses. Therefore, we would recommend that future evaluations establish a system for collecting patient and support feedback concurrently with care. This could address both the low response rate and any potential for retrospective response bias. Lastly, the diagnostic picture of this sample was at one time point: the diagnosis. Therefore, we urge caution in the interpretation of the range of diagnoses because they could change, and likely do change, over the course of treatment and recovery from HNC. Further research is warranted to evaluate other outcomes of interest in relation to integrated mental-health care and HNC patients.

CONCLUSION

Psychologists bring a unique set of skills for communication, distress management, and identification of additional risk factors associated with poor outcomes in HNC patients. This study is an important first step in empirically evaluating the presence of an integrated psychologist in a HNC clinic. Identification of high-risk patients is important to better understand needs, improve medical management of difficult psychosocial situations, establish realistic patient expectations, and promote more successful treatment outcomes. Overall, staff, patients, and support persons indicated significant benefit to having an integrated psychologist in a HNC clinic. Further research is needed to determine the economic impact of ongoing psychosocial screening and intervention on patient outcomes within the HNC population through treatment.

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BIBLIOGRAPHY

1. SEER cancer statistics review, 1975–2011. Accessed January 1, 2014.
2. Hagedoorn M, Molleman E. Facial disfigurement in patients with head and neck cancer: the role of social self-efficacy. *Health Psychol* 2006;25: 643–647.
3. Katz MR, Irish JC, Devins GM, Rodin GM, Gullane PJ. Psychosocial adjustment in head and neck cancer: the impact of disfigurement, gender and social support. *Head Neck* 2003;25:103–112.

4. Stoikova M. Assessment of the quality of life in patients with oral cavity and jaw cancer in three regions of Bulgaria. *J BUON* 2007;12:395–398.
5. Vickery LE, Latchford G, Hewison J, Bellew M, Feber T. The impact of head and neck cancer and facial disfigurement on the quality of life of patients and their partners. *Head Neck* 2003;25:289–296.
6. Villaret AB, Cappiello J, Piazza C, Pedruzzi B, Nicolai P. Quality of life in patients treated for cancer of the oral cavity requiring reconstruction: a prospective study. *Acta Otorhinolaryngol Ital* 2008;28:120–125.
7. Lydiatt WM, Moran J, Burke WJ. A review of depression in the head and neck cancer patient. *Clin Adv Hematol Oncol* 2009;7:397–403.
8. Hammerlid E, Ahlner-Elmqvist M, Bjordal K, et al. A prospective multicentre study in Sweden and Norway of mental distress and psychiatric morbidity in head and neck cancer patients. *Br J Cancer* 1999;80:766–774.
9. Chen AM, Jennelle RL, Grady V, et al. Prospective study of psychosocial distress among patients undergoing radiotherapy for head and neck cancer. *Int J Radiat Oncol Biol Phys* 2009;73:187–193.
10. Yu GP, Mehta V, Branovan D, Huang Q, Schantz SP. Non-cancer-related deaths from suicide, cardiovascular disease, and pneumonia in patients with oral cavity and oropharyngeal squamous carcinoma. *Arch Otolaryngol Head Neck Surg* 2012;138:25–32.
11. Kendal WS, Kendal WM. Comparative risk factors for accidental and suicidal death in cancer patients. *Crisis* 2012;33:325–334.
12. Mayne ST, Cartmel B, Kirsh V, Goodwin WJ Jr. Alcohol and tobacco use prediagnosis and postdiagnosis, and survival in a cohort of patients with early stage cancers of the oral cavity, pharynx, and larynx. *Cancer Epidemiol Biomarkers Prev* 2009;18:3368–3374.
13. Osthus AA, Aarstad AK, Olofsson J, Aarstad HJ. Prediction of 5 year survival from level of perceived distress in newly diagnosed head and neck squamous cell carcinoma patients. *Oral Oncol* 2013;49:964–969.
14. Duffy SA, Ronis DL, Valenstein M, et al. Depressive symptoms, smoking, drinking, and quality of life among head and neck cancer patients. *Psychosomatics* 2007;48:142–148.
15. Chen AM, Vazquez E, Courquin J, Donald PJ, Farwell DG. Tobacco use among long-term survivors of head and neck cancer treated with radiation therapy. *Psychooncology* 2014;23:190–194.
16. Sreeraman R, Vijayakumar S, Chen AM. Correlation of radiation treatment interruptions with psychiatric disease and performance status in head and neck cancer patients. *Support Care Cancer* 2013;21:3301–3306.
17. Duffy SA, Terrell JE, Valenstein M, Ronis DL, Copeland LA, Connors M. Effect of smoking, alcohol, and depression on the quality of life of head and neck cancer patients. *Gen Hosp Psychiatry* 2002;24:140–147.
18. Humphris GM. The missing member of the head and neck multidisciplinary team: the psychologist. Why we need them. *Curr Opin Otolaryngol Head Neck Surg* 2008;16:108–112.
19. Hutton JM, Williams M. An investigation of psychological distress in patients who have been treated for head and neck cancer. *Br J Oral Maxillofac Surg* 2001;39:333–339.
20. Howren MB, Christensen AJ, Karnell LH, Funk GF. Psychological factors associated with head and neck cancer treatment and survivorship: evidence and opportunities for behavioral medicine. *J Consult Clin Psychol* 2013;81:299–317.
21. Ayalon L, Arean PA, Linkins K, Lynch M, Estes CL. Integration of mental health services into primary care overcomes ethnic disparities in access to mental health services between black and white elderly. *Am J Geriatr Psychiatry* 2007;15:906–912.
22. Chomienne MH, Grenier J, Gaboury I, Hogg W, Ritchie P, Farmanova-Haynes E. Family doctors and psychologists working together: doctors' and patients' perspectives. *J Eval Clin Pract* 2011;17:282–287.
23. Reiss-Brennan B. Mental health integration: Normalizing team care. *J Prim Care Community Health* 2014;5:55–60.
24. Centers for Medicare & Medicaid Services, Baltimore, MD. Available at: http://www.hcahpsonline.org. Accessed January 28, 2014.
25. Wang Y, Kong MC, Lee LH, Ng HJ, Ko Y. Knowledge, satisfaction, and concerns regarding warfarin therapy and their association with warfarin adherence and anticoagulation control. *Thromb Res* 2014;133:550–554.
26. Jerant A, Fenton JJ, Bertakis KD, Franks P. Satisfaction with health care providers and preventive care adherence: a national study. *Med Care* 2014;52:78–85.
27. Fullam F, Garman AN, Johnson TJ, Hedberg EC. The use of patient satisfaction surveys and alternative coding procedures to predict malpractice risk. *Med Care* 2009;47:553–559.
28. Wong WS, Fielding R. The association between patient satisfaction and quality of life in Chinese lung and liver cancer patients. *Med Care* 2008; 46:293–302.
29. Maupome G, Peters D, White BA. Use of clinical services compared with patients' perceptions of and satisfaction with oral health status. *J Public Health Dent* 2004;64:88–95.
30. Fuertes JN, Anand P, Haggerty G, Kestenbaum M, Rosenblum GC. The physician-patient working alliance and patient psychological attachment, adherence, outcome expectations, and satisfaction in a sample of rheumatology patients. *Behav Med* 2013; 19:1–9. Epub ahead of print.
31. Dahlof L, Simonsson A, Thorn J, Larsson ME. Patients' experience of being triaged directly to a psychologist in primary care: a qualitative study. *Prim Health Care Res Dev* 2014;15:441–451. doi: 10.1017/S1463423613000339.
32. Baghi M, Wagenblast J, Hambek M, et al. Demands on caring relatives of head and neck cancer patients. *Laryngoscope* 2007;117:712–716.
33. Semple CJ, Dunwoody L, Sullivan K, Kernohan WG. Patients with head and neck cancer prefer individualized cognitive behavioural therapy. *Eur J Cancer Care (Engl)* 2006;15:220–227.
34. Henry M, Habib LA, Morrison M, et al. Head and neck cancer patients want us to support them psychologically in the posttreatment period: survey results. *Palliat Support Care* 2013:1–13.
35. *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. Washington, DC: American Psychiatric Association; 2000.
36. Burnett-Zeigler I, Zivin K, Ilgen MA, Islam K, Bohnert AS. Perceptions of quality of health care among veterans with psychiatric disorders. *Psychiatr Serv* 2011;62:1054–1059.
37. Desai RA, Stefanovics EA, Rosenheck RA. The role of psychiatric diagnosis in satisfaction with primary care: Data from the department of veterans affairs. *Med Care* 2005;43:1208–1216.
38. Berlin I, Singleton EG, Pedarriosse AM, et al. The Modified Reasons for Smoking Scale: factorial structure, gender effects and relationship with nicotine dependence and smoking cessation in French smokers. *Addiction* 2003;98:1575–1583.
39. Fidler JA, West R. Self-perceived smoking motives and their correlates in a general population sample. *Nicotine Tob Res* 2009;11:1182–1188.
40. McEwen A, West R, McRobbie H. Motives for smoking and their correlates in clients attending Stop Smoking treatment services. *Nicotine Tob Res* 2008;10:843–850.
41. Pesut D, Milovanovic B, Bulajic M, Bozic D. Health care workers smoke as well—who, how much and why? *Pneumologia* 2010;59:19–22.
42. Haisfield-Wolfe ME, McGuire DB, Soeken K, Geiger-Brown J, De Forge BR. Prevalence and correlates of depression among patients with head and neck cancer: a systematic review of implications for research. *Oncol Nurs Forum* 2009;36:E107–125.
43. Archer J, Hutchison I, Korszun A. Mood and malignancy: head and neck cancer and depression. *J Oral Pathol Med* 2008;37:255–270.
44. Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 2005;62:593–602.
45. de Graeff A, de Leeuw JR, Ros WJ, Hordijk GJ, Blijham GH, Winnubst JA. Sociodemographic factors and quality of life as prognostic indicators in head and neck cancer. *Eur J Cancer* 2001;37:332–339.
46. Lowe B, Spitzer RL, Grafe K, et al. Comparative validity of three screening questionnaires for DSM-IV depressive disorders and physicians' diagnoses. *J Affect Disord* 2004;78:131–140.
47. Meader N, Mitchell AJ, Chew-Graham C, et al. Case identification of depression in patients with chronic physical health problems: a diagnostic accuracy meta-analysis of 113 studies. *Br J Gen Pract* 2011;61:e808–820.
48. Prusoff BA, Klerman GL, Paykel ES. Concordance between clinical assessments and patients' self-report in depression. *Arch Gen Psychiatry* 1972; 26:546–552.
49. Stuart AL, Pasco JA, Jacka FN, Brennan SL, Berk M, Williams LJ. Comparison of self-report and structured clinical interview in the identification of depression. *Compr Psychiatry* 2014;55:866–869.