Chapter 12
Multidisciplinary Care

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It is difficult to truly ascertain the effects of psychosocial and psychological distress on patients with head and neck cancer, but in regard to prevalence, studies have shown that it negatively impacts nearly 50% of all patients undergoing treatment for head and neck cancer [1, 2]. Head and neck cancer has been described as being the most "emotionally traumatic" of all cancers due to the primary effect of the cancer and the secondary effects of treatment on the appearance and fundamental functions of those with head and neck cancer [1]. A study published by Shekelle et al. in 1981 showed the presence of depression was associated with a twofold increase in mortality among patients being treated with cancer resulting in a fourfold increase in the rate of suicide in head and neck cancer patients compared with that of the general public or those with other types of cancer [2].

The National Comprehensive Cancer Network (NCCN) recognizes the importance of the multidisciplinary team and support services in head and neck cancer by preempting the management guidelines with a section on this topic: "The management of patients with head and neck cancers is complex. All patients need access to the full range of support services and specialists with expertise in the management of patients with head and neck cancer for optimal treatment and follow-up" [3]. While it is easy to focus solely on the medical and surgical treatment of head and neck cancer, an equally important goal of the multidisciplinary team is early identification and coordinated management of psychological and psychosocial effects of the diagnosis and treatment of head and neck cancer.

Studies in the head and neck cancer scientific literature sometimes use the term "multidisciplinary care" when specifically referencing collaboration between

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physicians and surgeons involved in curative efforts such as surgery, radiation therapy, and chemotherapy. This chapter, and text overall, takes care to include the numerous providers and team members involved in head and neck cancer care and their role in the multidisciplinary team in the management of the psychological and psychosocial effects of head and neck cancer. We will also discuss barriers and strategies on the implementation of the multidisciplinary management of complex cancer care. While the barriers of multidisciplinary care are often great, the synergistic effects of multidisciplinary management produce a combined benefit greater than the sum of the individual parts.

There is abundant literature on head and neck cancer team members' roles and responsibilities and the benefits of including each member in the care of patients; however, there is a paucity of literature on how head and neck cancer teams best function, especially when focused specifically on psychological and psychosocial effects. Despite the nearly universal recognition of the impact of psychologic and psychosocial distress on treatment of head and neck cancer, how it should be treated is less understood. While most authors note the need for multidisciplinary care in treatment of head and neck cancer, fewer recognize the importance of incorporation of psychologic and psychosocial care into the multidisciplinary teams.

This chapter endeavors to present the available evidence for the utilization of multidisciplinary care in head and neck cancer including the psychological and psychosocial effects of head and neck cancer, discuss the roles of each member of the multidisciplinary team, describe barriers that exist within multidisciplinary care, and the strategies that can be utilized to mitigate these barriers.

Evidence of Benefit

While there are not data to specifically support the use of the multidisciplinary team in the management of the psychological and psychosocial effects of head and neck cancer, there are studies that have retrospectively demonstrated the benefit on the multidisciplinary management of head and neck cancer.

Studies have shown that multidisciplinary team (MDT) care compared to non-MDT care can alter diagnosis, stage, and treatment plan [4], improve late stage survival [5], and improve adherence to clinical quality indicators (CQIs) [6] such as dental assessment, nutritional assessment, PET staging, chemo-radiotherapy for locally advanced disease, and use of adjuvant CRT for high risk disease.

While these data show some benefit of multidisciplinary management of head and neck cancer, there is scant literature discussing the benefit of the multidisciplinary management of head and neck cancer in the treatment of the psychological and psychosocial effects of cancer. However, the importance of multidisciplinary management of the psychological and psychosocial effects of head and neck cancer and its treatment can be deduced from the above data if the need for psychologic and psychosocial care can be demonstrated. The need for high-quality multidisciplinary head and neck cancer care is self-evident as one reviews individual team

members' roles and responsibilities and how complex such care can become. One patient in a qualitative review aptly described the effects of lacking coordinated and communicative multidisciplinary care:

> There was no overall communication, there was no one saying, "this is what's going to happen". It was like the plastic surgeon was going to do his bit, the medical oncologist was going to do her bit, the ear nose and throat person was going to do their bit, the maxillofacial person was going to do their bit and so I was just going from specialist to specialist and there was no one telling me what was going to happen. So that was a bit confusing and also a bit unsettling [7].

Up to 49% of patients with cancer meet the diagnostic criteria of depression and patients who develop depression are less likely to complete treatment leading to subsequent increased mortality [8, 9]. It has also been shown that patients who develop depression during treatment of their HN cancer are more likely to have a worse quality of life upon completion of treatment [10]. In addition to these data, there are also numerous studies showing that the treatment of psychological distress can improve treatment adherence, satisfaction with care, and health-related quality of life. Providing interventions such as coping strategies, for example, can improve physical and social functioning, global quality of life, fatigue, sleep disturbance, and depressive symptoms [11]. There are also studies that have shown that individual modalities of head and neck cancer rehabilitation in selected patients can improve quality of life and even survival [12]. Patients should be screened for psychological distress because they may not be an accurate judge of their own level of distress during radiation and therefore do not self-refer for psychological support [13, 14].

Although a large proportion of patients with HN cancer experience clinically significant psychosocial distress, medical professionals frequently fail to recognize this distress. This is particularly concerning given that distress is responsive to treatment, and untreated distress is associated with significantly worse psychosocial and medical outcomes [15].

Head and Neck Cancer Multidisciplinary Team Members

A comprehensive discussion of the roles and responsibilities of the numerous team members is beyond the scope of this chapter, but these included descriptions introduce the team member with particular attention to relevancy to psychological and psychosocial effects. Examples of typical team member's involvement in multidisciplinary care and management of psychological and psychosocial effects are included. Table 12.1 summarizes training of the team members. Many more types of providers who may participate in the care of patient with head and neck cancer have not been included for the sake of brevity.

Cancer treatment, both surgical and medical (chemotherapy, radiotherapy, immunotherapy), has wide and varying effects on quality of life and long-term psychological outcome. These effects vary on the involved organs, modality of

Table 12.1 The head and neck cancer multidisciplinary team members and their typical educational degrees and training

Provider	Typical educational degree and training
Head and neck surgeon	Doctor of Medicine (MD)/ Doctor of Osteopathy (DO), Otolaryngology—Head and Neck Surgery Residency, Head and Neck Surgery Fellowship
Radiation oncology	MD/DO, Radiation Oncology Residency
Medical oncology	MD/DO, Internal Medicine Residency, Hematology/Oncology Fellowship
Facial plastic and reconstructive surgery	MD/DO, Otolaryngology—Head and Neck Surgery Residency, Facial Plastic and Reconstructive Surgery Fellowship
	General Surgery Residency, Plastic Surgery Fellowship
Dentistry/prosthodontics	Doctor of Dental Surgery (DDS)/ Doctor of Medical Dentistry (DMD) Prosthodontics Fellowship
Speech-language pathology	Master of Science (MS)
Clinical social work	Master of Social Work (MSW)
Psychiatry	MD/DO, Psychiatry Residency
Clinical psychology	Doctor of Philosophy (PhD)
	Doctor of Psychology (PsyD)
Nutrition	Registered Dietitian Nutritionist (RND)
Primary care/geriatrician	MD/DO: Primary Care Physician
	Geriatrics Fellowship
	Nurse Practitioner (NP)
	Physician Assistant (PA)
Palliative care	MD/DO: Residency in various fields, Fellowship in Hospice and Palliative Care
	Registered Nurse (RN, LVN/LPN)

Degrees and training may vary by local, regional, and national accreditation standards

treatment, stage of disease, and also patient-related factors. The decision between surgical and medical treatment of an individual's head and neck cancer is well beyond the scope of this chapter, but cases should optimally involve a multidisciplinary team to assist the patient in the decision-making process.

Head and neck (HN) surgeons are physicians involved in nearly every aspect of head and neck cancer and, thus, play a critical role in the assessment and directed treatment of the psychological and psychosocial effects of head and neck cancer. These physicians undergo Otolaryngology—Head and Neck Surgery (OHNS) surgical training, followed by dedicated subspecialty training in Head and Neck Surgery, which is directed toward oncologic and often reconstructive surgery. In some countries, head and neck surgeons initially train in General Surgery prior to dedicated head and neck surgery training. Oral surgeons may also fill this role in some locales. HN surgeons are regarded as the primary experts of head and neck cancer. Screening, biopsy, surgical excision and reconstruction, postoperative aftercare, and surveillance are all physical examples of the roles of head and neck surgeons.

HN surgeons often provide a patient with the initial counseling on head and neck cancer diagnosis and management, including the psychological and psychosocial expectations in this longitudinal process. Irrespective of whether the patient undergoes primary surgical or medical treatment of HN cancer (or multimodality treatment), the treatment course is known to have significant lasting psychological and/or psychosocial effects. While psychological distress often occurs during treatment, it has been shown to be directly linked with quality of life in that those patients with negative physical, social, cognitive, psychological, and emotional issues as well as physical symptoms such as pain, nausea, vomiting, and fatigue negatively affect patients' quality of life [16]. A study by Hung et al. evaluated the effects of surgery on patients' body image score [17]. The study found that radical surgery was the strongest independent predictor of body image score among all patients. The more surgical procedures a patient underwent, the greater correlation with worse post-treatment body image scores. Not only is surgery associated with worse body image score, but it is also known that surgery can negatively affect speech and eating which in turn has been shown to increase body image dissatisfaction compared to those patients who do not have posttreatment difficulty with speech and eating. In turn, patients who undergo primary medical treatment for their HN cancer have been shown to have less impact on body image dissatisfaction compared to those patients who undergo surgical therapy [18].

Facial plastic and reconstructive surgeons (FPRS) are physicians who undergo Otolaryngology—Head and Neck Surgery training like head and neck surgeons but then pursue further subspecialty surgical training in this field. In some circumstances, a plastic surgeon, who underwent a General Surgery and Plastic Surgery fellowship pathway, will fill this role. Many head and neck surgeons also receive reconstructive training and participate in this care. FPRS goals are reestablishment of optimal form (aesthetics and structural integrity) and function (speech, swallow, airway protection, among others). Reconstruction can be single-stage with oncologic resection, delayed, or multistaged. Both postoperative aesthetics and function are profoundly intertwined with psychological and psychosocial well-being. Reconstruction following cancer excisions involving the face has a significant aesthetic impact on psychosocial functioning [19].

Radiation oncology is a medical field focused on the treatment of cancer through delivery of ionizing radiation. A radiation oncologist will assess and manage radiation side effects as part of the multidisciplinary team and attempts to minimize interruptions related to such therapy side effects as best as possible. They assess candidacy for radiation therapy and discuss optimal strategies in multidisciplinary tumor boards.

During radiation therapy, patients will often experience depressive symptoms [20]. Between 22% and 35% of all radiotherapy outpatients report clinically relevant psychological distress and are at higher risk of developing depression if they receive radiation as their initial therapy compared to those who were treated surgically [21]. In a study from Chen et al., there was a preradiation treatment self-reported anxiety rate of 47% [22]. The median number of total missed treatment days was 11 in patients who reported being "extremely depressed" as compared to 2 days for

patients whose pretreatment mood was “neither in a good mood or depressed,” “generally good,” or “excellent.” If patients are actively offered psychological support during radiation therapy between 13% and 41% of the patients will accept a referral for professional support [13, 14, 23]. Given this high level of undetected distress, patients who are undergoing radiation therapy should receive routine screening for psychological distress and be referred for professional support whenever appropriate. It is difficult to ascertain the frequency of which routine screening should be performed. While the American College of Surgeon’s Commission on Cancer requires distress screening to be performed at the minimum frequency of at least once per pivotal medical visit, it is believed that with this infrequency of screening, this may delay or miss an opportunity to care for patients’ who require psychological support. In the study performed by Hess et al., they identified that if patients who are undergoing radiation therapy are screened once every week this would capture 90% of all patients who required psychological support [24]. Radiation oncologists have a role as a member of the multidisciplinary team to screen their patients while undergoing radiation therapy to assess for pretherapy psychological distress or therapy-induced psychological distress and refer them for therapy to not only improve their psychological well-being but also to improve their adherence to therapy and possible chance of survival.

Often known as *hematology/oncology physicians*, medical oncologists focus on nonsurgical and nonradiation based oncologic therapies, especially chemotherapy and immunotherapy. A medical oncologist will assess and manage systemic side effects as part of the multidisciplinary team and also attempts to minimize interruptions related to such therapy side effects as best as possible. Chemotherapy is used either in addition to radiotherapy or can be used prior to curative surgical therapy in head and neck cancer and is indicated for more advanced disease according to NCCN guidelines [3]. The curative potential of existing therapies in head and neck cancer is limited by the morbidity that is associated with therapy. Chemotherapy regimens have included monotherapy and combination therapies of cytotoxic medications such as platinum analogs (cisplatin, carboplatin), 5-FU, antimetabolites (methotrexate), taxanes, and immunotherapy such as cetuximab [25]. Combination chemotherapy and radiotherapy may incur additional toxicity compared to radiotherapy alone including greater mucositis, weight loss, fatigue, and dysphagia. Supportive care for chemoradiation includes erythropoietic agents and granulocyte-colony stimulating factor to counter myelosuppression and antiemetic therapy such as 5-HT3 antagonists [26]. With chemotherapy added to the treatment regimen comes new psychosocial concerns for the patient. For example, an interview-based study of patients receiving chemotherapy from France showed 33% expressed concerns regarding occupations and leisure activities, 32.6% expressing psychological needs, and 30% expressing needs related to interactions with family and friends [27]. Chemotherapy side effects interrelate to psychosocial concerns. Grassi et al. found that in their patient population undergoing chemotherapy that more than half of patients reported nausea (54%) and 14% reported vomiting. This chemotherapy-induced nausea and vomiting were associated with maladaptive coping (i.e., hopelessness-helplessness and anxious preoccupation) and emotional distress with poorer quality of life [28].

HN surgeons, radiation oncologists, and hematology/oncology physicians aim to cure or palliate head and neck cancer directly whereas the following specialists focus on the many other effects of cancer diagnosis, treatment, and surveillance.

Dentistry and oral surgeons play a significant role in head and neck cancer management due to the effects of therapy on oral function and hygiene. Regardless of the type of therapy provided for head and neck cancer, treatment often leads to decreased saliva production – the most severe being in those who receive radiation therapy. Hyposalivation not only affects quality of life by causing xerostomia but can also lead to dental demineralization and caries and increased risk of other oral infections such as candidiasis. Oral disease can not only cause pain and decreased oral function but can also negatively impact the psychologic well-being of cancer patients through increased anxiety and depression. These psychologic effects are represented by the fourfold increased risk of suicide in survivors of head and neck cancer [29].

Dentists are key members in the multidisciplinary management of head and neck cancer patients as they are in a position to detect and biopsy oral and oropharyngeal lesions [30]. Once the cancer diagnosis is made, dental providers can positively impact the psychological and psychosocial effects of head and neck cancer through providing continued dental care for these patients to minimize the negative impact of treatment on oral health. As dental extraction is often the result of surgical and/or medical treatment of HN cancer and the fact that patients perceive loss of teeth as a determinant of quality of life and posttreatment depression/anxiety, dental restoration is an important aspect of multidisciplinary management of HN cancer [31]. Similar to plastic and reconstructive surgeons, the goal is restoration of form (dentition) and function (mastication) through veneers, crowns, bridges and other methods.

Speech-language pathology (SLP) is an ancillary healthcare field with expertise of communication, including vocalization, and swallowing. The SLP assesses risk factors for aspiration, provides individually tailored swallowing and mastication exercises, and guides the patient as to appropriate texture foods to optimize swallowing [32]. The ability to tolerate oral diet has been shown to affect quality of life and rates of depression in head and neck cancer. A study from Hassanein et al. found that patients with functional oral impairment 6 months after treatment were more likely to have severely depressed emotional states compared to those with normal oral function [33]. It has also been found that patients with trismus following treatment of their head and neck cancer are more likely to have greater levels of depression compared to those with normal interincisal opening [34]. In laryngeal cancer, integrating SLP in both surgical and nonsurgical treatment has psychosocial benefits [35]. Nutrition and SLP services may be closely intertwined in multidisciplinary care; for example, an RCT showed that adding individualized swallowing therapy to individual dietary counseling did not improve food intake but did accelerate swallowing recovery [36]. SLP evaluation and intervention should be initiated prior to treatment if possible. A retrospective cohort study at Johns Hopkins Medical Institutions showed that patients evaluated initially (pretreatment) through the multidisciplinary clinic had more SLP visits during and after treatment than those who did not participate in the multidisciplinary clinic initially (mean = 1.8 vs. 0.2, $P < 0.0001$) [37].

Clinical social work is a healthcare profession with special focus on behavioral and bio-psychosocial problems and disorders. This can be performed in patient group settings [38]. Another similar position is the outpatient head and neck oncology nurse coordinator who is dedicated to head and neck oncology coordination and early problem identification [39]. The clinical social worker often focuses on ameliorating the financial, social, and psychological barriers to cancer care. Facilitating support groups, mediating patient-caregiver conflicts, referrals to financial assistance organizations, providing information on spiritual counseling, coordinating transportation to treatment, and providing information about a disease are also possible roles that the clinical social worker can fulfill.

Psychiatry is the study and treatment of mental illness, emotional disturbance, and abnormal behavior. Although head and neck cancer is not a psychiatric disorder, secondary effects of head and neck diagnosis and treatment include psychiatric issues such as depression, addiction, and posttraumatic stress disorder (PTSD) [40]. Additionally, psychiatrists often function as or with psychotherapists. Preexisting psychiatric disorders also significantly affect the course of care. The Prevention of Depression in Patients Being Treated for Head and Neck cancer Trial (PROTECT) investigated the use of prophylactic administration of the antidepressant escitalopram oxalate on patients without a baseline diagnosis of depression. This study found that escitalopram oxalate had the ability to prevent the development of depression in patients who were about to begin treatment of their head and neck cancer by greater than 50% [21]. Due to the complex medical histories and medications for treatment and symptom management of head and neck cancer patients, the active involvement of a mental health provider as a member of the MDT is critical.

Clinical psychology, conversely, is more focused on the context of distress with non-pharmacologic interventions such as cognitive behavioral therapy and mindfulness [41]. Although limited high-quality evidence exists for psychological interventions improving quality of life for head and neck cancer patients [42], there is evidence that psychological therapy improves emotional, physical, and functional well-being. Given the high prevalence of depression, anxiety, and distress in these patients, it is critical to support the spiritual and psychological well-being of head and neck cancer patients throughout their treatment and recovery.

Registered dietitians (RD) are regulated healthcare professionals licensed to manage nutritional problems. Both the nature of head and neck cancer and its oncologic treatments can impact the ability of the body to maintain nutritional status. Nutrition is critical to proper wound healing. RD counseling aims to minimize undesired weight loss, prevent malnutrition, and promote wound healing. RDs may also work to motivate patients with head and neck cancer to maintain oral intake of nutrition, including mindful eating strategies [32].

Primary care providers, particularly *geriatricians*, can play a major role in the comprehensive and longitudinal care of older patients with head and neck cancer [43]. These healthcare providers may continue to manage other medical conditions through the course of head and neck cancer care. Studies show that a geriatric assessment prior to initiation of chemotherapy was more helpful in identifying patients at higher risk for chemotherapy-related adverse events than other commonly used measures in oncology practice such as performance status [44]. There

is an ongoing trial on the impact of comprehensive geriatric assessment on survival, function, and nutritional status in elderly patients with head and neck cancer: protocol for a multicenter randomized controlled trial (EGeSOR) which will provide valuable insight into the role of the geriatrician [45].

Palliative care is medical and nursing care that focuses on providing relief from symptoms, especially pain, and physical and mental stress. Palliative noncurative therapy is focused on management of noncurable disease, including head and neck cancer, but palliative care specialists are also trained to alleviate complex symptomatology at any stage of illness. Hospice care, focusing on communication, collaboration, compassionate caring, comfort, and cultural (spiritual) care, is often closely associated with this field.

The Tumor Board

The National Cancer Institute defines a tumor board as a treatment planning approach in which a number of physicians who are experts in different specialties (disciplines) review and discuss the medical condition and treatment options of a patient [46]. Although the authors agree with this definition fundamentally, the tumor board is also a prime opportunity for nonphysician members of the care team to provide insight and recommendations into other aspects of the patient's cancer care trajectory. The tumor board should be utilized not only for the discussion of new head and neck cancer patients but also for a discussion of patients with ongoing cancer treatment and patients in the surveillance phase. This is of particular importance to the subject at hand given that much of the psychological and psychosocial of head and neck cancer occur during the treatment and posttreatment phases.

Some members of the multidisciplinary team may attend other tumor boards, such as chest or gastrointestinal, at their institution. It may also be known as Multidisciplinary Team Planning or other similar terms. Institutions may offer Continuing Medical Education (CME) credit for attendance, and survey studies show that providers appreciate these meetings [47]. Nonphysician attendance can better enhance patient care coordination [39].

Shellenberger et al. give an excellent description of the tumor board and its goals: "a dynamic multidisciplinary team planning conference should also be fluid enough to accommodate needs that arise in managing complications during treatment, assessing response to disease, monitoring for recurrence after treatment, and even attending to late effects of treatment" [48].

Tumor board decisions and plans can be enhanced by incorporating input outside the surgeon, radiation oncologist, and oncologist. In particular, a social worker may have particular insight to the psychological, financial, or general barriers that a patient may have to completing therapy. This is an opportune and critical moment to consider the human patient behind the cross-sectional imaging and histopathology. While NCCN evidence-based approaches and practice guidelines are critical considerations, the patient's personal goals of care, which a psychologist or primary care provider may be more longitudinally knowledgeable of, should factor in to

decision-making. Tumor boards can also increase education and awareness of head and neck cancer care for students, trainees, and practitioners.

Multidisciplinary Care Barriers and Strategies

Given the wide array of needs that a patient with head and neck cancer may encounter along the care arc, an approach with multiple specialties providers seems a necessity. However, a distinction may be made between a system with patients receiving care from multiple providers and a system where the multiple providers work together with longitudinal inter-provider feedback. For this reason, interdisciplinary care may be a more apt term [49]. Figure 12.1 illustrates this concept.

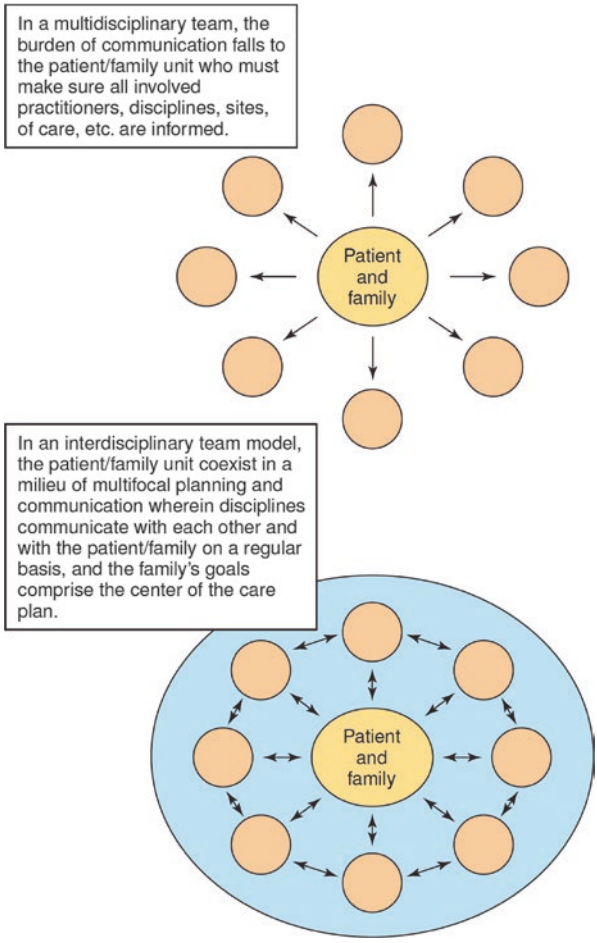

Fig. 12.1 Distinction between multidisciplinary team and interdisciplinary team models. In an interdisciplinary team model, multiple providers work together with longitudinal inter-provider feedback. (From Street and Blackford [49], with permission)

Every member of the team should attempt to understand each other's roles and responsibilities as well as possible. One general strategy to help in the overall process is the creation of the Head and Neck Oncology Nurse Coordinator whose general role is facilitation of this interdisciplinary process [39]. Figure 12.2 illustrates this coordinator's role. The following discussions of multidisciplinary care barriers and strategies are by no means comprehensive but may be of benefit for providers creating MDTs and navigating team dynamics.

Barrier: Recognition of the Need for Another Discipline

A provider from another discipline cannot help if they are never incorporated into the patient's care. This topic of inclusion is especially relevant to psychological and psychosocial effects of head and neck cancer and its management.

- Lack of screening: Distress screening can help identify barriers to optimal care and recovery. Some studies require patients to express a need prior to psychosocial intervention [38]. Additionally, longitudinal screening across the course of care may be helpful.
- Lack of provider education: Should a given provider lack the knowledge of services that another specialty may offer, then the patient may not be referred for

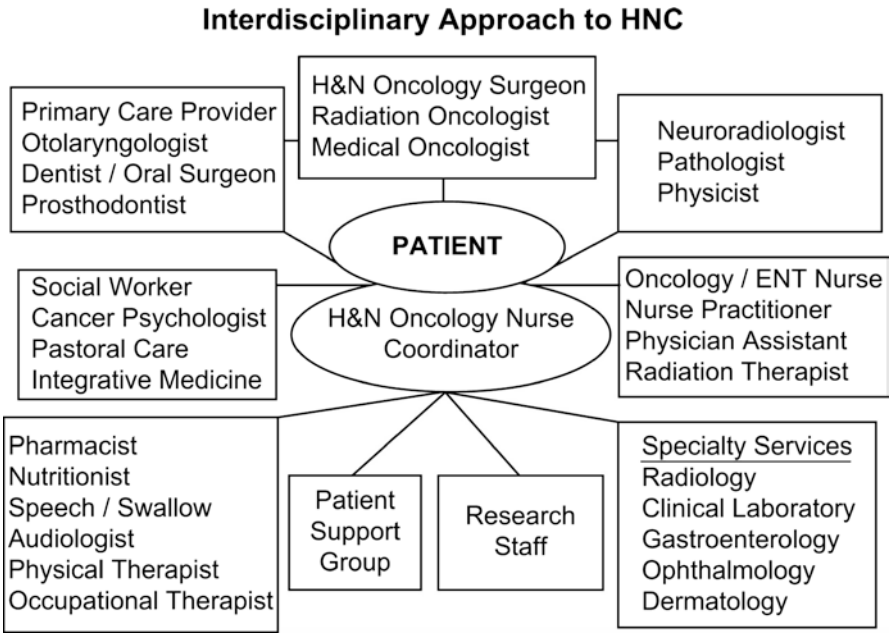

Fig. 12.2 Facilitation of the interdisciplinary process with a head and neck oncology nurse coordinator. (From Wiederholt et al. [39], with permission)

appropriate care. Palliative care, in particular, is heavily associated with noncurative therapy, but they can be a valuable resource during the course of curative therapy. "Palliative" refers to relieving symptoms without reversing the cause. From this definitional perspective, palliative head and neck cancer care could be considered any supportive care that is not curative or reconstructive in nature. Without clear patient education, a referral to such a specialist could miscommunicate a poorer prognosis and lead to unnecessary psychological distress.

Strategies

- Automatic consultation with subspecialists based on preset patient and cancer factors. Nutritional assessment, in particular, for any patient requiring a feeding tube is one example of such strategy.
- The measurement of patient-reported outcome measures (PROMs) during and following head and neck cancer management may alert their caregivers to distress and anxiety. Rogers et al. reviewed that head and neck consultants have declined using quality of life questionnaires with reasons cited as lack of resources, unproven value, a time and paper burden, and the misconception that PROMs are a research tool rather than an adjunct to providing patient care and education [50]. PROMs may actually save time if completed prior to the patient encounter and can alert providers to psychosocial issues that may not otherwise arise in discussion.
- Unnecessary referrals and appointments have the potential to add burden to the patient and cost to the healthcare system, and so providers must gauge appropriateness. Stepped care algorithms in head and neck (and lung) cancer patients may be cost-effective tools that spare resources but accommodate severity [51].
- Early training in multidisciplinary care at the undergraduate and graduate medical education levels, such as the UCSF Program for Interprofessional Practice and Education, can introduce concepts and team dynamics that may have been lacking in the past for providers [52, 53].

Barrier: Miscommunication

The topic of communication in oncologic healthcare warrants a textbook in its own right, but a brief discussion is extremely relevant to multidisciplinary head and neck cancer care. Communication settings between providers vary widely in healthcare: face-to-face or telephonic verbal discussions, including the "curbside consults," postal or facsimile referral correspondence, and the medical record, increasingly electronic, and including both outpatient and inpatient records.

Language and terminology may differ between specialties. The educational pathway for each member varies (see Table 12.1), including their personal and professional backgrounds.

Poor communication with the patient may result in information overload and stress: information presented by different healthcare professionals might not be consistent or could sound divergent if the patient does not fully understand what is being said. Personal, family, and work-related problems that affect financial, social, and emotional well-being might be the primary concerns of the patient and yet might not even be discussed [39]. Patients are not blind to miscommunication. Moore et al. details how inadequate communication can cause stress and confusion about treatment, and conflicting information about treatment contributes to pretreatment anxiety [7].

Strategies

- Closed-loop feedback communication with confirmation of comprehension
- Not making assumptions about other caregivers' healthcare literacy, especially in complex subspecialties

Barrier: Physical Limitations and Loss to Follow-Up

The gap between ideal and real-world conditions can diminish head and neck cancer care.

- Gaps in space and time minimize the face-to-face interactions between providers and the patient. This creates opportunities for missed communication. For example, nursing updates may wait while the surgeon operates, or the radiation oncologist may work in a separate campus from the speech-language pathologist.
- Loss to follow-up in cancer may be a result of provider, patient, or external factors.

Strategies

- Tumor board conference: Maintain consistent scheduling and ensure that all team members are made aware of changes. Documentation of attendees and case consensuses in a standardized format improves record keeping.
- Inpatient: structured "rounding" with nursing, medical and other staff present. This should take into account daily schedules, such as nursing shift sign-outs and operating room morning start times, among others depending on institutional practices.
- Outpatient: Dual-provider appointments or examinations may be helpful, such as an otolaryngologist performing a nasopharyngoscopy while an SLP observes and interprets.
- Distance between the tertiary care centralized HNC team and the team and locality from which the patient was referred [50]. The clinical nurse, family physi-

cian, otolaryngologist, and dentist are very important to ensure ongoing monitoring and care of late effects of treatment and possible referral to a tertiary care center for further management.
- Some studies describe the psychological effects of awaiting test results (PET scans, pathology reports), but few, if any, describe the psychological effect of awaiting tumor board consensus.
- Maintaining a database of patients with ongoing cancer care at a given institution with contact information and expected dates for follow-up appointments. The Institute of Medicine (IOM) recommends a comprehensive care summary with follow-up plans and ongoing management for patients at primary therapy completion [54].

Barrier: Access and Coverage

- Logistical considerations for the patient such as transportation, child care, housing; employment-related items; and side effects. Radiation treatment, for example, may require patients to attend daily [55].

Strategies

- Pivotal role of clinical social worker
- Creation of programs at institutions: Patients living with advanced cancers who underwent the Interprofessional Palliative Rehabilitation Program at the University of Ottawa experienced significant improvement in functioning across several domains. After the initial assessments, the team jointly formulated a tailor-made care plan for each patient. Plans included medical and nursing assessments, physical exercise, and occupational, dietary, and psychosocial interventions. Patients accepted into the 8-week program attended group exercise sessions at a gymnasium in the hospital twice weekly. The gym sessions each accommodated 4–5 patients, supervised by the physiotherapist. Before each gym session, patients were seen by other team members as required, according to need, or as requested by the patient [56]. A similar institutional program was that of McGill University of Montreal [57].

Conclusion

Multidisciplinary care in the diagnosis and treatment of head and neck cancer represents the standard of care, especially in complex, advanced, and rare cases. Psychological and psychosocial effects arise in nearly every facet of care, and individual members must remain committed to providing every patient with the best chance to achieve personal goals of care and alleviate distress.

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