The coordination of services for patients with suspected or newly diagnosed lung cancer produces improved patient outcomes, particularly in their quality of life. Evidence-based practice demonstrates improved outcomes from the multimodality therapies offered today, especially for patients with lung cancer; however, navigating through the healthcare system is especially challenging for patients. In developing the Multidisciplinary Lung Cancer Clinic at Frederick Memorial Hospital, navigation challenges in the healthcare system have been addressed. Patients are receptive and pleased with the approach, in which a nurse practitioner coordinates services and provides guidance and support for patients. The program offers benefits to patients with lung cancer in the community hospital setting. A similar program can be implemented in community cancer centers for patients with other diagnoses to improve outcomes and satisfaction with the healthcare system.
patients’ overall quality of life. Navigators help patients and caregivers manage cancer diagnoses and overcome barriers to obtaining timely and appropriate cancer care and treatment (National Institutes of Health [NIH], 2005).

This article will detail the establishment of a successful multidisciplinary approach in the management of patients with lung cancer and the role of nurse navigators within a community hospital setting. The authors’ intent is to describe the positive and negative aspects of the program’s development and implementation to provide a blueprint for clinicians who may be planning or looking to improve similar programs.

Rationale for Implementation

Prior to the initiation of the multidisciplinary lung cancer clinic (MLCC), three thoracic surgeons terminated their employment at the cancer center. As a result, the cancer center had no full-time thoracic surgeon and experienced an outward migration of thoracic cases to nearby regional teaching hospitals. The number of thoracic surgery cases performed in 2002 fell to 3% of those in previous years. In addition, the number of patients with lung cancer diagnosed and treated from 2000–2002 fell by 16% (Frederick Memorial Hospital, 2004). The outward migration of lung cancer cases was believed to contribute negatively to patient quality of life because the regional teaching hospitals were one to two hours in travel time from the cancer center.

An additional rationale for developing the MLCC resulted from a review of cancer registry data, which demonstrated long delays between diagnosis and initiation of treatment. Multifactorial in nature, the treatment delays were related to physician networks, referral patterns, and difficulty in scheduling expedited radiographic and pulmonary studies. The cancer registry data showed that patients were waiting, on average, one to three months to initiate definitive treatment.

Practical experience has revealed discrepancies concerning patient management among practicing physicians, specifically radiation and medical oncologists. Historically, a medical oncologist focused on the treatment of systemic disease while a radiation oncologist focused on the treatment of local disease. When combined modalities are employed, specialists must work together with the understanding that the combination of therapies will be beneficial to patient outcomes (Gopal, 2005). According to Choy, Shyr, Cmelak, Mohr, and Johnson (2000), a multidisciplinary approach to patient care will minimize practice differences. When considering the development of a MLCC, the multidisciplinary approach was posited to improve communication within the healthcare system and promote collaborative teamwork among the multiple consulting physicians involved in the diagnostic and treatment process.

Administrators and physicians at the cancer center saw the previous deficiencies as opportunities. As a result, a comprehensive, coordinated multidisciplinary program was implemented for patients with pulmonary abnormalities and probable lung cancer.

Building a Framework

The mission of the MLCC was to establish a superior community hospital–based lung cancer program that offered excellent patient care and satisfaction while improving quality-of-life outcomes. The administration at the cancer center established a planning committee to direct the focus of the program. The planning committee included members of nursing, administration, and medical and surgical specialties who would be involved at the MLCC. The members convened biweekly for approximately three months prior to the first MLCC meeting. The established goals were to develop a multidisciplinary lung cancer program that would provide a coordinated approach to lung cancer management and improve clinical outcomes by decreasing the time from diagnosis to treatment. Two weeks was determined to be an acceptable time frame. An additional goal was to diagnose patients at an earlier stage of the disease, which, theoretically, would improve survival as well as the overall quality of life of patients using the MLCC. Expedited evaluation of patients and appropriate use of positron emission tomography (PET) and computed tomography (CT) imaging are necessary to properly diagnose patients with pulmonary abnormalities. CT scans of the chest are essential in determining the extent of the primary tumor and regional lymph node status. A PET scan provides further information regarding tumor presence, growth, and cell metabolism. CT and PET scans have been shown to improve the accurate staging of patients with NSCLC (Vesselle et al., 2004). Treatment is guided by disease staging, thus making accurate and efficient staging essential to effective treatment for patients with lung cancer (Antoch et al., 2005). By achieving the aforementioned goals and providing outstanding clinical services, the cancer center and planners of the MLCC hoped that patients would seek treatment for newly diagnosed lung cancer in the community hospital setting. Participation would be evident by the increase in lung cancer cases diagnosed and treated at any facility initiating a MLCC.

The primary specialties involved in a MLCC are thoracic surgery, medical oncology, radiation oncology, pulmonary medicine, and nursing. The involvement of ancillary departments, such as pathology, interventional radiology, social work, and behavioral medicine, is essential for overall program effectiveness. In addition, primary care physicians must be educated about the program and its goals to support the concept of a MLCC and refer patients. A multidisciplinary approach also should improve patient satisfaction by minimizing the number of physician appointments and providing care that addresses patients’ physical and psychosocial concerns.

Upon development of the concept of a MLCC, the planning team surveyed institutions with similar programs in place. At larger facilities, particularly at the university level, a coordinator of clinical care was a common denominator. Although the job titles varied, the functions performed were similar and instrumental to the success of the program. The key features of the position were coordinating patient care and simplifying the evaluation, treatment planning, and treatment administration processes for patients. The planning team decided that a patient coordinator or navigator was needed to direct the overall evaluation process and guide patients through the MLCC program. The job description was developed by the director of oncology services and the navigator herself. The navigator position was designed to coordinate the day-to-day operations of the MLCC while working collaboratively with physicians, ancillary services, and community
Establishing a Patient Process

The navigator consulted with participating physicians and key referring physicians from the community to develop a process for identification and management of patients with suspected or biopsy-confirmed NSCLC. After scheduling a patient’s initial appointment at the MLCC, the navigator begins to collect and organize data pertaining to the patient’s pulmonary abnormality, including obtaining a thorough health history from the patient, inclusive of the use of or exposure to tobacco products, environmental or occupational exposure patterns, family history of malignancy, and personal history of symptoms (see Figure 1). A chest CT with contrast; a PET scan with CT fusion, when possible; and pulmonary function tests were required before a visit to the MLCC. The navigator arranged for the diagnostic examinations if they had not been completed. The hospital’s imaging center was supportive of the goals of the MLCC and was committed to making appointments available when necessary so that PET and CT scanning could be completed and interpreted by a radiologist prior to a patient’s visit to the MLCC. Pulmonary function tests were performed expeditiously at the hospital or a local pulmonary medicine practice to ensure the results would be available for the MLCC visit. Pulmonary function tests are helpful in assessing patients’ respiratory status and identifying underlying lung disease and obstructive changes that affect the course of treatment, making them an important component of the preoperative assessment prior to thoracic surgical intervention (Beckles, Spiro, Colice, & Rudd, 2003) and radiation therapy.

When patients did not have a confirmed tissue diagnosis, fine needle aspiration was ordered prior to the initial evaluation, as permitted by timing, scheduling conflicts, and patient comorbidities. If patients presented with a cardiac history or were on anticoagulation therapy, additional time was needed to obtain cardiac clearance or coordinate the temporary cessation of anticoagulation therapy. In some cases, patients referred to the MLCC had an initial bronchoscopy with biopsy as part of their workup. Most patients were scheduled for a bronchoscopy or mediastinoscopy shortly after an initial evaluation in the MLCC, and tissue diagnosis was obtained or confirmed at that time.

Upon completion of all diagnostic examinations, the navigator collects pertinent films, reports, and other necessary data. The information is compiled and made available to each physician participating in the MLCC for review prior to a patient’s appointment to minimize physician clinic time and patient waiting time.

The MLCC presently meets on the second and fourth Friday of the month. Initial patient consultation is limited to 30 minutes with each participating provider (i.e., thoracic surgeon, pulmonologist, medical oncologist, and radiation oncologist) and the nurse navigator, which often results in a two-hour initial visit. Physicians then discuss potential treatment options with the patient while detailing interventions specific to the physician’s specialty. After the initial consultation, the patient is discharged from the MLCC and scheduled for a follow-up appointment with the patient navigator in two to three business days. At the end of the clinic, the physicians and the navigator meet to discuss treatment recommendations for the patient with consideration given to disease stage, performance status, and comorbidities. The process aims to enhance communication among the multiple disciplines involved in each patient’s case. A lead or follow-up physician is identified for each patient. In most cases, the treatment plan consists of a combined-modality approach.

During the follow-up appointment, the navigator meets with the patient to review physician recommendations and arrange necessary appointments. Patients are informed that the navigator will be coordinating their care and should be seen as a contact regarding questions, problems, education, and support. Patients receive a calendar of scheduled appointments along with necessary telephone numbers, directions, and contact information for questions. If appropriate, the navigator will coordinate a referral to an oncology social worker. While meeting with a patient, the navigator reviews specific treatment modalities as previously recommended by physicians. For example, if a patient will be treated with concurrent chemotherapy and radiation, the navigator will review the side effects of each modality. Patients are provided with written material pertaining to specific treatments and a list of resources should they have further questions. Appointments to initiate treatment then are coordinated and relayed to patients.

The navigator completes a patient summary to document the agreed treatment recommendations. The summary is forwarded to each physician participating in a patient’s care as well as his

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**Figure 1. Signs and Symptoms Associated With Lung Cancer at Presentation**

or her referring physician. If surgery is indicated, the sequenc-
ing is coordinated to provide the patient with the best oppor-
tunity for a cure. Surgery is considered the primary treatment 
for most cases of early-stage lung cancer. In later stages, surgery 
is followed by adjuvant chemotherapy and radiation therapy; 
however, chemotherapy and radiation therapy sometimes may 
precede surgery to debulk an existing tumor in hopes of achiev-
ing total resection (National Comprehensive Cancer Network, 
2006).

**Program Impact**

Patients with NSCLC who are diagnosed at an early stage of 
disease have an increased predicted survival over those 
diagnosed with more advanced disease (Ginsberg, Vokes, & 
Rosenzweig, 2001). With the implementation of the MLCC, a 
goal of two weeks from diagnosis to the initiation of therapy 
was established, which was a considerable improvement over 
the one- to three-month time frame prior to the development 
of the MLCC. At the end of the first year, the program initiated 
treatment within 14 days for 92% of patients seen in the MLCC 
(Frederick Memorial Hospital, 2004). For patients guided 
through the MLCC, the average number of days from diagnosis 
to treatment was 18.76 days as compared to 29.3 days for pa-
ients with a diagnosis of lung cancer prior to the existence of 
the MLCC. With continued teamwork and process refinement, 
the cancer center should reach its two-week goal for all patients 
seen in the clinic. In addition, since the inception of the MLCC, 
the volume of patients with lung cancer seen and treated at 
the cancer center has increased by 48%.

During the first six months of implementation, satisfaction 
surveys were obtained from 90% of patients visiting the MLCC, 
followed by a random distribution that included at least 50% 
of patients evaluated in the clinic. Based on the data, patients 
were completely satisfied when using the MLCC, regardless of 
the extent of the disease.

**Potential Pitfalls**

In retrospect, holding a clinic on Fridays has been problematic. 
From a patient’s perspective, waiting over the weekend to learn of 
the recommendations made at the multidisciplinary meeting 
is difficult. Another challenge for the navigator is scheduling ap-
pointments and procedures during a Friday afternoon when some 
physician practices close early prior to the weekend.

Ongoing turf issues arise when the MLCC is cancelled be-
cause of the lack of patients. For practices that employ multiple 
physicians, an adequate balance of new patient consults cannot 
be guaranteed. For example, one week an oncologist could get 
seven new consults but if no patients are scheduled for the fol-
lowing clinic (two weeks later), the oncologist’s partner or com-
petitor may not examine any new patients. In addition, finding 
neutral ground or physical space to hold the weekly clinic has 
been difficult. Presently, the MLCC is held in a hospital-owned 
physician practice setting, which some physicians view as a 
point of contention.

From a patient satisfaction standpoint, having a plethora of 
help coordinating care at the time of diagnosis and little 
or none thereafter can be frustrating. Some patients have 
reported that they are disappointed to lose the service of the 
patient navigator. The navigator, in this setting, serves as a 
point of entry. Once patients get through the system and are 
assigned to a lead physician, they no longer are followed by 
the navigator.

**Nurse as Navigator**

Little data exist in the literature, particularly nursing lit-
erature, to support the implementation of a nurse navigator 
position for patients with lung cancer. Interdisciplinary breast 
cancer programs that employ a nurse navigator have shown 
increased patient satisfaction (Rabinowitz, 2004). The National 
Cancer Institute announced a total of $25 million in grants to 
eight research institutions to develop the innovative Patient 
Navigator Research Program. The grants will focus on patients 
with cancer from racial or ethnic minority groups, low socio- 
economic status, and medically underserved areas. The purpose 
of the program is to test and evaluate interventions designed to 
 improve access to timely and appropriate cancer care and treat-
ment following a cancer diagnosis (NIH, 2005).

Theoretically, anyone knowledgeable about the nuances of 
a physician’s practice could act as a navigator of a multidisci-
plinary clinic; however, oncology RNs who are knowledge-
able of all aspects of oncology care actually are best suited for 
such a role. Nurse navigators must be highly organized 
and skilled at coordinating the multiple procedures necessary 
to ensure that patients are guided appropriately through the 
multiple steps, from initial workup to treatment completion. 
Oncology nurses understand the importance of a complete 
workup and accurate staging. Nurse navigators must be able 
to collaborate with multiple physicians and ancillary support 
services to excel at meeting, and perhaps exceeding, patient 
expectations regarding care, treatment, and overall customer 
service. Oncology nurses are instrumental in coordinating care 
and delegating responsibility as appropriate. Nurse 
navigators must possess extensive knowledge about surgical, 
medical, and radiation oncology. Not only does the timing of 
the modalities require coordination, each has its own set of 
risks and side effects. Nurse navigators must be able to educate 
patients and caregivers about each treatment modality and be 
able to answer questions regarding the timing and coordina-
tion of each approach. Furthermore, nurse navigators must be 
knowledgeable of appropriate nursing interventions for 
side-effect management and complications that can occur 
as a result of prescribed treatment. Oncology nurses possess 
detailed knowledge regarding treatment, side effects, and 
evidence-based interventions. An understanding of each treat-
ment modality, side effects, and overall prognosis for patients 
with lung cancer at each stage is essential in keeping patients 
and their family members free from misconceptions.

Nurse navigators must be patient advocates who promote 
patient empowerment and include patients in decisions 
throughout the treatment planning process. Advocacy is a 
central tenant of nursing practice. Oncology nurses know the 
importance of advocacy and patient self-empowerment. One 
great benefit to having a nurse navigator is that he or she has 
ample time to spend with each patient reviewing information 
and providing education to ensure a thorough understanding of
the overall situation and treatment plan. A nursing background with a strong oncology component strengthens the role of the nurse navigator in providing the educational, physical, and psychosocial dimensions of care that patients with cancer require.

Nurse navigators must be knowledgeable about aspects of care management and the healthcare system in which the multidisciplinary program resides. Managed care has had a tremendous impact on patient care management and treatment outcomes. Forming strong alliances with referral and authorization coordinators from primary care physician offices is a must. In addition, understanding the nuances of which diagnostic tests are covered by managed care providers is important when advocating appropriate care and minimizing waste.

Ultimately, patient navigators must be compassionate and willing to listen to patient concerns, alleviate expressed fears, minimize frustrations, and attempt to support emotional needs. If these are the requirements of an effective navigator, who else but an oncology nurse should fill the challenging and rewarding role?

Future Considerations

With the continued development of improved diagnostic technology and increasingly varied treatment options for most cancers, a collaborative treatment approach may be beneficial to patients with cancer. Comprehensive treatment planning through a multidisciplinary methodology gives patients the benefit of a team approach to disease management and decreases patient dissatisfaction with a fragmented style of patient care.

The experience of developing and maintaining a MLCC has been rewarding and eye opening. Several shortcomings in the current care delivery model were identified initially, followed by a dedication to change to benefit patients and providers. By decreasing time from diagnosis to initiation of treatment, patient satisfaction will continue to be high, survival time increased, and cure rates improved. A MLCC with an identified nurse navigator who coordinates and delivers patient care can tremendously improve any thoracic oncology program. Perhaps the experience of developing a MLCC will be used to assist other practitioners in developing similar programs to improve the care of patients with cancer in other hospital settings.

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