# An Integrated Approach to Lung Cancer in a Community Setting

## The multidisciplinary thoracic clinic at Erie Regional Cancer Center

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Multidisciplinary care is an integrated approach to healthcare in which medical and allied healthcare professionals consider all relevant treatment options and collaboratively develop individual treatment plans for patients (see Table 1, page 42). Multidisciplinary cancer clinics allow physicians in different subspecialties to work side-by-side, developing a patient's care plan with consensus.

In traditional models of multimodality cancer care, patients often undergo sequential referrals where they are shuttled from clinician to clinician at different stages of diagnosis and treatment (see Table 2, page 42). This so-called "integrated" approach can be a confusing experience for the patient, resulting in conflicting information from different healthcare professionals. On the other hand, multidisciplinary clinics can provide more consistent information to patients.

As cancer care becomes more complex, fewer patients are being treated with single modality therapy. Multidisciplinary clinics allow specialists to develop evidence-based recommendations in accordance with guidelines and protocols endorsed by the clinical team. Indeed, in the United States, the American College of Surgeons Commission on Cancer requires multidisciplinary cancer care conferences for the accreditation of cancer centers.

Emerging evidence shows that multidisciplinary care has the potential to reduce mortality, improve quality of life, and even reduce healthcare costs.[1] Further, data indicate that treatment delays can translate to reduced overall survival, specifically in lung cancer.[2]

This information and data served as the basis and impetus for Erie Regional Cancer Center to establish and implement its multidisciplinary thoracic clinic.

## Setting the Stage

Two competing hospitals—Saint Vincent Health System and Hamot Medical Center—provide most of the care in the city of Erie, Pennsylvania. As both hospitals share a common goal of improving the delivery of cancer care to the community, they were able to come together in a joint venture in 1987 to create the Erie Regional Cancer Center. Today Erie Regional Cancer Center is a freestanding cancer treatment center, treating approximately 220 new thoracic malignancies per year.

In 2008 the two hospitals identified a need to implement a multidisciplinary thoracic oncology clinic in order to improve the flow of patients into the healthcare system. The clinic would be established in a community setting and focus solely on diagnosis and treatment of thoracic malignances.

In May 2008 a group comprised of administrators from the two hospitals and Erie Regional Cancer Center and healthcare providers involved in the diagnosis, management, and treatment decisions of patients with thoracic malignancies, met to discuss what this multidisciplinary clinic might look like.

At this meeting, the group developed five core principles that served as the clinic's framework:

1. A team approach
2. Communication among team members
3. Access to full therapeutic range of services
4. Provision of care in accordance with nationally agreed standards
5. Patient involvement in treatment decision making.

The group set up an initial algorithm to determine which patient population was appropriate to be seen in the multidisciplinary thoracic clinic versus patients who should be seen by surgery or pulmonary prior to clinic visit. Patients with a definitive diagnosis were deemed appropriate for multidisciplinary clinic visits. Additionally, the group agreed that patients who may benefit from neo-adjuvant chemotherapy and/or radiation would be seen in the multidisciplinary thoracic clinic by all three specialists prior to any treatment initiation. The group identified point people at the surgical, pulmonary, and oncology practices. These individuals would facilitate inter-office coordination of appointments and patient care.

The decision was made to implement a standing clinic day, as the group felt this model would best facilitate collaboration with medical oncology, radiation oncology, and thoracic surgery, as well as the support services deemed necessary by providers. In addition to offering chemotherapy and radiation treatments, Erie Regional Cancer Center has a full complement of onsite patient services, including diagnostic radiology, PET/CT, lab, nutrition services, palliative care, pharmacy, and social services. Accordingly the team decided to hold the clinic at the cancer center, ensuring that patients received an all inclusive appointment. Erie Regional Cancer Center was also selected because the group viewed it as a "neutral" location.

A medical oncologist from the cancer center was selected to serve as the Medical Director of the new multidisciplinary thoracic clinic (MTC). The MTC started seeing patients in June 2008.

| Table 1. Multidisciplinary Approach to Healthcare |
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| Instant communication among various specialists |
| Reduction in time from diagnosis to physician appointments |
| Access to full resources |
| Consensus recommendation in accordance with national guidelines |
| Enhanced interspecialty relationships |
| Promote peer review among specialists |
| Avoid duplication of unnecessary services |

| Table 2. Traditional Approach to Healthcare |
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| Fragmented and uncoordinated care |
| Long delays and waiting times between appointments |
| Poor patient satisfaction |
| Non-uniform access to patient care |
| Variations in treatments not often guidelines-based |

## MTC Implementation

Historically, the prevailing belief was that successful multidisciplinary clinics were only achievable at academic medical centers where all the physicians are employed by the same facility. But with the sacrifice and commitment of all of the participating physicians—particularly the thoracic surgeons who are willing to fold their thoracic practice into the joint cancer center—Erie Regional Cancer Center was able to successfully develop an MTC in a community setting. Six factors helped to ensure successful implementation of the MTC.

*1—Hospital and cancer center support.* While all providers involved felt that the MTC would substantially improve the delivery of care to patients, the clinic faced its fair share of challenges. As stated previously, Erie Regional Cancer Center is essentially a joint venture owned by two competing hospitals, with day-to-day operational management and supervision carried out by the University of Pittsburgh Medical Center. If the MTC was to be successful, full support from *all* institutions was necessary—regardless of the institutions' different and unique agendas. Support from cancer center providers was more easily achieved as the majority of physicians are employed with the same practice and facility.

*2—Surgeon support and involvement.* The two hospitals each have approximately four to five cardiovascular surgeons with varying interest in thoracic surgery. Both were willing to select one or two thoracic surgeons each to act as primary physicians in the clinic. Under this model, patients were seen expeditiously and consistently by the surgeons or a designated backup when appropriate.

*3—Pulmonologist support.* Erie has a pulmonology group that serves both hospitals. Although the pulmonologists are not directly involved in seeing patients in the MTC, they serve as the main referral sources. Gaining their support and understanding of the MTC is critical to the clinic's success. The cancer center has developed a close working relationship with these physicians and their nurses, which allows for effective exchange of information and timely appointments for patients.

*4—Nurse coordinator.* A nurse coordinator serves as the point of contact for patients from diagnosis through initiation of the treatment plan. This nurse coordinator is extremely valuable to the success of the MTC. Under our clinic model, upon referral to the MTC, the nurse coordinator obtains and reviews patient records and determines which physicians need to evaluate patients. The nurse coordinator also obtains films (if needed) and coordinates appointments with medical oncology, radiation oncology, and surgery. This model allows patients to see the appropriate physician(s) in the MTC on the same day. If possible, prior to the initial appointment in the thoracic clinic, the nurse coordinator will review records with the medical director and arrange to have diagnostic studies, such as PET scans, available at the MTC to allow for complete staging information. In brief, the nurse coordinator responsibilities include:

- Initiating the physician meeting to discuss cases at the beginning of each clinic day
- Meeting with each patient
- Arranging ancillary services at patient visits
- Ensuring each patient understands the plan of care at the completion of the MTC
- Ensuring treatment appointments and follow-up visits are scheduled
- Documenting data from the MTC.

From the point of diagnosis, staff at the pulmonary and/or surgical offices communicate directly with the nurse coordinator. This communication is key, resulting in timely workups that are condensed into days as opposed to weeks in more traditional care delivery models.

*5—Physician champion.* Dynamic clinical leadership is critical to creating a shared vision and understanding about the benefits of a multidisciplinary clinic. The selection of a "physician champion" is critical to the success of an MTC. This physician can promote the value of the clinic to his or her peers and help ensure its success with referring physicians and the community at large. Successful physician champions:

- Promote the value and effectiveness of the multidisciplinary clinic
- Share the benefits of patient participation and communicate these to other physicians
- Meet with and educate referring physicians in the community
- Act as an interface between the administration and outside referral source(s)
- Advocate for patient participation in clinical studies
- Lead colleagues through the difficult process of changing clinical behaviors.

At Erie Regional Cancer Center, our physician champion plays a significant role in managing the participation of both employed and private practice physicians in the MTC.

*6—Clinical trials.* A successful MTC can increase clinical trials enrollment. The MTC offers a venue for a research nurse to provide education and expertise regarding clinical research trials to members of the team and patients. At Erie Regional Cancer Center, patients are proactively screened for available lung and esophageal cancer trials. Eligibility is discussed as a group at a pre-clinic conference and, if appropriate, the research nurse is invited to discuss enrollment with the patient the day of the MTC. When physicians promote clinical trials as treatment opportunities, patients are more likely to participate. Since the MTC was established, Erie Regional Cancer Center has seen both more clinical trials available (lung cancer in particular) and more patients enrolled. In fact, the cancer center's enrollment to lung cancer clinical trials nearly doubled from 2009 to 2010.

As a byproduct of the clinic, Erie Regional Cancer Center ranked #2 in enrollment for the RTOG-0617 trial. Currently, several of our lung-based trials have closed and we continue our efforts to search for new clinical trials and offer participation to all patients that come to the MTC.

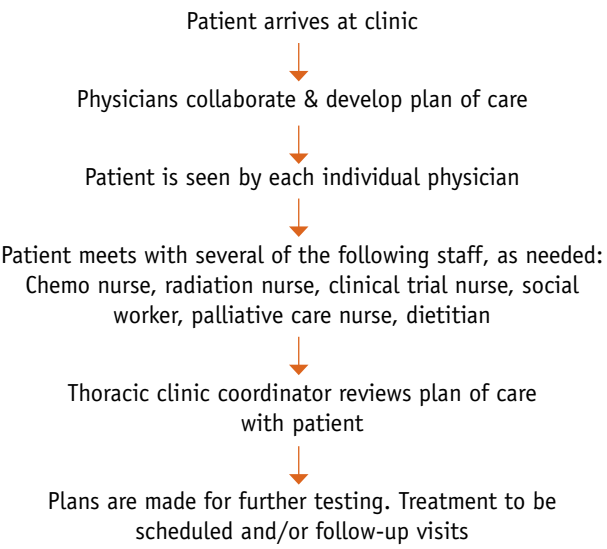
## Clinic Day

A typical clinic day may be very time consuming for patients based on their needs and the number of physicians and associated staff they need to see. A representative from the MTC calls new patients prior to the first visit to explain the clinic process and timeframe. The success of clinic visits depends greatly on the patience and flexibility of physicians, staff, patients, and families. A usual clinic day is summarized in Figure 1, right.

## Overcoming Challenges

Multidisciplinary care, including MTCs, is more complex than traditional care. Multidisciplinary clinics require a blend of internal and external program operations to ensure the success of patient flow. Consequently, multidisciplinary clinics are time and resource intensive and riddled with potential pitfalls. Indeed, a poorly-designed clinic with ill-defined roles can complicate patient management by creating redundancies and discrepancies in patient care and communication. Further, practical concerns, such as organizational meetings, can create significant burden on the time of team members if there is inadequate administrative and nursing support. The following are challenges that we have overcome during the implementation of our multidisciplinary thoracic clinic.

**Figure 1. Typical Clinic Day**




*1—Juggling physician time.* In our MTC model Erie Regional Cancer Center serves as the primary site for all meetings with patients and relevant members of the MTC team. Therefore, both surgical groups from the two participating hospitals commit at least one surgeon per week to travel to the cancer center at an established time. This time commitment impacts the surgeon's schedule, affecting his private office schedule, surgery, or personal time. The surgeon may see fewer patients in the MTC than he or she would have seen at their office during the same time period. Fortunately, Erie Regional Cancer Center is located approximately 10 minutes from the two hospitals and both surgical offices. We have overcome this hurdle mainly due to the dedication of all surgeons involved, as they will either come to the MTC to see patients after completion of surgical cases or prior to seeing patients in their office.

*2—Multidisciplinary clinics are often intensive for physicians, staff, and patients.* This scenario is particularly true when dealing with thoracic malignancies, as numerous issues must be addressed in addition to treatment recommendations, including symptoms and side effects, pain management, and social concerns.

Most new patient visits to the MTC are long and involved. On average the patient could spend three to four hours at the MTC, especially when all three physicians (medical oncology, radiation oncology, and surgery) are

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The MTC means less duplication in work and more clearly defined roles of what each staff member provides to the patient.

involved. Often patients also meet with a chemo or radiation nurse, social worker, palliative care nurse, and/or dietitian. Prior to MTC implementation, patients would meet with most of this staff, likely over several visits. With the MTC there is more coordination of care among team members, as we are able to meet as a group to discuss patient needs. The MTC means less duplication in work and more clearly defined roles of what each staff member provides to the patient. Despite the extended day for the MTC, new patients are satisfied and know that it can condense three potential visits—often at multiple week intervals—into one clinic day.

*3—Financial cost and burden to administration and cancer center.* Development and implementation of a multidisciplinary clinic can often be less profitable, especially from the perspective of the institution. Nursing and resource utilization, physician commitments to potentially fewer patients on the clinic day, and time management where much of the focus is done outside of the actual consultation with the patient can all lead to increased costs—both financial and for the staff. Certainly these factors need to be considered for the clinic to run in a profitable fashion. However, due to improvements in care coordination, Erie Regional Cancer Center has maintained excellent retention rates; most patients opt to have chemo and radiation treatments, as well as follow-up care at our cancer center. To ensure that clinical outcomes are not compromised simply for profitability, we adhere to the basic principle of seeing every patient referred to MTC—regardless of their financial status.

*4—Lack of patient participation.* If patients do not participate in decision making, it violates a key principle of multidisciplinary care and can compromise the integrity of the clinic. When multidisciplinary team meetings occur prior to the patient visit, complete medical history, social situation, and patient opinion are not known and taken into account as a plan is developed. This process could lead to inappropriate treatment decisions, thus negating the benefit of the multidisciplinary discussion. Here is how we have overcome this challenge at Erie Regional Cancer Center.

Our initial discussion takes place prior to patient arrival. As each physician meets with the patient and complete information is obtained, our physicians conduct intermediate discussions between visits to take into account all appropriate information. This dynamic process allows physicians to update care plans, ultimately allowing the patient to make an educated decision regarding care.

As we undertook the development and implementation of our multidisciplinary thoracic clinic, all participants were well cognizant of the potential downside and challenges. Through hard work, communication, and cooperation we have been able to achieve many, if not all, of our goals despite these challenges.

## Evaluating the MTC

Although multidisciplinary clinics have generally been endorsed and accepted at academic centers, the impact of these clinics in a community setting has yet to be established. Little quantitative or qualitative research has been done to determine the impact of multidisciplinary clinics—both on patient outcomes and feasibility in the community setting. Therefore, in order to ensure success of the MTC and demonstrate its ongoing viability, Erie Regional Cancer Center established certain criteria to measure clinic success. Tools were developed and implemented with the input and assistance of the director of nursing. The criteria require ongoing documentation and periodic review. As multidisciplinary clinics require a substantial amount of clinical and institutional resources, measurement tools must be in place to ensure ongoing efficacy, including:

- Time from referral to appointment
- Time from appointment to initiation of treatment
- Number of multidisciplinary visits
- Number of new patients
- Attrition rate (percentage of patients that leave for treatment elsewhere).

Our data collection has told us that patient volume alone does not provide an adequate picture of the financial health of the multidisciplinary thoracic clinic. As we know, patients diagnosed with lung cancer often participate in ongoing revenue-generating clinical studies, in addition to the obvious chemotherapy and radiation treatments. Often these clinical trials require radiographic studies and new technology, such as PET scans and ENB, all which help ensure the financial integrity of the institution.

Due to the success and commitment of the team, and with the full support of cancer center administration, the MTC continues to grow in volume and has served as the basis for the development of other disease-site-specific multidisciplinary clinics at the Erie Regional Cancer Center.

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