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Developing a Network of Community-based Delivery Sites

Insights gained by the Ireland Cancer Center in northern Ohio

by Nathan Levitan, M.D., M.B.A.

The Ireland Cancer Center (ICC) is a National Cancer Institute-designated comprehensive cancer center affiliated with University Hospitals of Cleveland (UHC), University Hospitals Health System (UHHS), and Case Western Reserve School of Medicine. Since its establishment in 1985, the ICC has provided inpatient and outpatient cancer treatment services and has developed extensive basic and clinical research programs. Until early 1998, most ICC patient care activities took place at University Hospitals of Cleveland.

Over the past five years, UHC has been transformed from an academic hospital in an urban setting to a large health care system (UHHS) that provides inpatient and outpatient care at 100 sites across northern Ohio. Currently, the system includes several community hospitals (1,650 inpatient beds), community-based outpatient centers, a managed care organization, a medical services organization, and more than 130 primary care and specialty physicians who are employed by one of the components of UHHS. The system currently employs approximately 15,400 individuals. In 1998 inpatient days totaled 375,000, and more than 3.1 million outpatient visits were provided.

Simultaneous with the growth and development of UHHS, ICC leadership was asked to develop additional delivery sites. A plan was developed to integrate these services into communities throughout northern Ohio.

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Most physicians strive to provide high-quality patient care, and many are aware of local competitive forces. However, clinicians seldom think of medical care as a product in a marketplace. In deciding to bring cancer services to surrounding communities, the initial challenge is to clarify the specific services that characterize patient care at a cancer center. In marketing terms, define your product and develop a strategy for delivering consistent services at multiple locations. In a saturated market, ask whether the product being offered provides any competitive advantage over other available cancer services. We took each of these actions at the Ireland Cancer Center in northern Ohio.

Our goal was easily articulated: "To deliver the highest possible quality of cancer care to the patients of northern Ohio." Core attributes of what we at the Ireland Cancer Center believe to be high-quality cancer care include:

- *State-of-the-art care.* We want to provide cancer care that is evidence based and is consistent with the most recent clinical research data. This is accomplished by using a matrix of patient-care pathways developed by physicians at the ICC to guide patient-care management. Teams of subspecialty-focused physicians in the cancer center continuously revise these pathways.
- *Multidisciplinary care.* Patients with cancer often consult with physicians from different cancer-related specialties and receive divergent recommendations from medical oncologists, surgeons, and/or radiation oncologists. At the ICC, we convene a multitude of disease-specific tumor conferences attended by medical oncologists, radiation oncologists, surgeons, radiologists, pathologists, and other specialists as needed. Patient management decisions are made prospectively based on recommendations of the entire group. Physicians who deliver care at community-based sites may present a patient via telemedicine to one of the subspecialty conferences taking place at the academic center, or the physician may present the patient at a local community hospital-based tumor conference.
- *Clinical trials.* The ICC is committed to providing a wide array of clinical trials in which patients may choose to participate. These include single institutional trials, cooperative group protocols, and pharmaceutical-sponsored research. Most clinical trials are available at all of the ICC delivery sites. Only Phase I trials are restricted to the academic center due to the complexity of pharmacokinetic monitoring and the handling of certain investigational agents. All clinical trials are displayed electronically using intranet technology so that the most recent version of any trial is available to ICC physicians systemwide, thus eliminating a stream of paper. We believe that cancer clinical trials provide a structure for sophisticated and up-to-date cancer care and also provide cancer patients with access to emerging technology.
- *Patient-focused care.* Most cancer patients are under considerable psychological and physiologic stress. Many face financial hardships as well. Accordingly, an important component of "high-quality cancer care" includes the provision of a comfortable and convenient setting

in which to receive care. In addition, patients at each ICC delivery site must have access to a broad array of psychosocial and nutritional support services.

With these principles in mind, we planned to build several community-based cancer centers capable of delivering the same quality of cancer care that has been offered at the academic center. Thus, each facility must include and integrate both medical and radiation oncology services. Medical and radiation oncology physicians share patient-care facilities and work side by side. Each center offers modern chemotherapy treatment facilities that provide comfort and privacy to patients. Other components of each facility include one or more nurses skilled in cancer clinical trials, social services, and nutrition support services. Perhaps most important, the physicians and nurses practicing at each center must be strongly tied to the ICC in order to follow ICC patient-care pathways, present all patients prospectively at multi-disciplinary conferences, and offer eligible patients participation in ICC protocols.

TABLE 1: REQUIREMENTS FOR ICC PHYSICIAN MEMBERSHIP

1. The ICC is the principal site of patient-care delivery.
2. Treatment will be delivered according to ICC care paths.
3. Physicians will participate in multidisciplinary conferences.
4. Physicians will participate in the clinical trials program.
5. Physicians will participate in ICC continuing education activities.

MARKET ANALYSIS: IDENTIFY LOCATIONS

Having defined the product, the next step was to develop a plan for delivering this product at strategic sites throughout the community. First, we identified appropriate locations for the centers, and then assessed the expected patient volume and sources of patient referrals at each location.

The ICC selected numerous delivery site locations. Although the original ICC facility, located at the urban academic center, succeeded in capturing a large proportion of the cancer "market share" within the county, a majority of patients with cancer were not traveling from other parts of northern Ohio to receive their care at the ICC. Thus, many cancer patients in this region did not have easy access to care at an NCI cancer center. In selecting individual locations for new centers, the population size and projected number of cancer patients in each community were analyzed. This process was closely integrated with expansion plans developed by UHHS.

When the current phase of this expansion program is complete, we will have five full-service, community-based ICC facilities in addition to the original facility at the academic center. Two of the community-based Ireland Cancer Centers are located within or directly adjacent to an inpatient facility affiliated with UHHS. Two are located within community-based, multidisciplinary outpatient care facilities owned by UHHS. One ICC is a freestanding building constructed as a partnership between UHHS and an independent hospital system.

MARKET ANALYSIS: IDENTIFY CUSTOMERS

Having defined the product that we want to deliver, we also needed to ask: Who are our "customers" and What do our "customers" want? The primary "customer" is, of course, the patient with cancer. Also important are the referring physicians (generally surgeons and internists) and the families of cancer patients.

The most important consideration for the cancer patient and that patient's family is the opportunity to achieve a favorable medical outcome. However, the convenience factor is important as well. Recognizing that many cancer patients are debilitated at the time of diagnosis, and that frequent visits to the physician are often needed, the patient's choice of a cancer treatment center is often influenced by location.

The referring physician can, in many cases, influence the patient to seek cancer care at one or another facility. In directing the patient to a medical or radiation oncologist, the referring surgeon or internist faces a variety of motivations. The referring physician is likely to be most interested in the well being of the patient. In addition, the referring physician would like to remain actively involved in and aware of the progress of the patient's cancer treatment. The referring physician also faces financial and social pressures to refer within the medical community.

While the importance of the referring physician in influencing the patient's decision about cancer treatment cannot be overstated, it

Working With Community Physicians: A Progress Report

As of January 2000, the Ireland Cancer Center delivers care at the academic center, at two full-service community-based ICCs, and at three community-based medical oncology offices. A third full-service community-based site opened in March 2000, a fourth will open in July 2000, and a fifth in early 2001.

The first community-based Ireland Cancer Center opened in January 1998. Two medical oncology physicians are operating at maximum capacity, and a third enjoys a rapidly growing practice. The linear accelerator at that facility is operating at maximum capacity.

The second community-based ICC opened in October 1999. This facility is treating approximately 15 patients per day with chemotherapy and 35 patients per day with radiotherapy. Volume is building rapidly each month.

The academic center continues to operate at maximum capacity. Rather than simply shifting volume from one center to another, the opening of community-based ICC facilities has provided new patient populations with access to ICC care.

Two busy medical oncologists previously served the community in which the first ICC community-based facility is located. One physician was in private practice, and the second was a salaried member of a multispecialty group owned by UHHS. Both physicians moved their offices into the Ireland Cancer Center. To accommodate the large patient volume, a third physician was hired as well. The private practitioner was enthusiastic about moving his entire practice from a modest office into a plush new facility. While continuing to function as a private practitioner, he gained two partners and enjoyed the intellectual stimulation of the ICC approach to patient care. The previously salaried physician maintained his employment structure. He, too, has benefited from a less burdensome call schedule, a greatly enhanced practice environment, and an opportunity to participate in a sophisticated cancer care delivery system.

In the second community-based ICC facility, a private practice medical oncologist with a large referral base in the same community was recruited to serve as medical director. Recognizing the declining reimbursement for chemotherapy administration, he elected to become a salaried employee of UHHS instead of maintaining his private practice structure. His compensation level is similar to that which he enjoyed as a private practitioner, and his weekend call schedule is more favorable. He has become an active member of a subspecialty conference at the academic center, and therefore is gaining a depth of expertise in this area. He has become actively engaged in the clinical trials program.

Several radiation oncology physicians have been recruited from communities adjacent to new ICC facilities. Each of these physicians has joined a single practice group directed by the chief of the Department of Radiation Oncology at University Hospitals of Cleveland. This centralized structure for radiation oncology facilitates flexible coverage arrangements among the different radiation oncology delivery sites and also encourages adherence to uniform standards of care. The radiation oncology physicians who have joined the ICC have gained access to state-of-the-art treatment techniques and quality control mechanisms; they have become members of a multidisciplinary treatment team; and they have become exposed to a broad array of clinical trials. These physicians have also maintained a comfortable level of compensation.

More difficult situations have arisen when oncologists in the community view the ICC as a potential threat to their livelihood. One community in which the ICC is developing a full-service facility already contains several medical oncology physicians. Some of these physicians deliver care at multiple sites, including institutions that are affiliated with competing health care systems. To deliver care according to the ICC model, a physician already practicing in the community would be required to deliver most of his or her cancer care at the ICC facility and focus his or her patient care activities within a single health care system. In this situation, some physicians already in practice in the community have viewed less favorably the opportunity to join the ICC.

Career satisfaction for most physicians is a reflection of multiple factors, including compensation level, intellectual stimulation, life style, and the nature of the work environment. Each of these plays a role in the extent to which the ICC has achieved smooth integration with existing medical and radiation oncology physicians in a particular community. Table 2 summarizes the most important factors that have led to greater or lesser acceptance of the ICC by medical and radiation oncology physicians.

The financial environment in which medical and radiation oncology physicians practice is undergoing formidable changes. It has been our experience that the alignment of physicians and hospitals can result in improved quality of care for patients and financial security for hospitals and physicians alike.

must also be recognized that patients are becoming increasingly likely to take control of their own cancer care. Cancer patients are becoming aware of the array of available cancer services and are more likely than in the past to select a site for cancer treatment independent of the referring physician.

TABLE 2: FACTORS IN INTEGRATION OF EXISTING ONCOLOGY PHYSICIANS

Factors Favoring Smooth Integration with Existing Oncology Physicians

1. Pre-existing shortage of medical or radiation oncology physician resources
2. Practice style of pre-existing physicians similar to ICC standards
3. Compensation level of pre-existing physicians at/near national norms
4. Pre-existing physicians delivered most of their care at a single hospital/health care system

Factors Leading to Difficult Integration with Existing Oncology Physicians

1. Pre-existing excess of medical or radiation oncology physician resources
2. Practice style of pre-existing physicians unorthodox
3. Compensation level of pre-existing physicians significantly above national norms
4. Pre-existing physicians delivered care at multiple hospitals/health care systems

FINANCIAL, CONSTRUCTION, AND STAFFING CONCERNS

In considering the expansion of the ICC clinical program to multiple community-based sites, it was recognized that a multi-million dollar investment would be needed for the development of each facility. Start-up and ongoing overhead costs were formidable as well. Although UHHS, UHC, and the Ireland Cancer Center are non-profit entities, sufficient revenue had to be generated at each center to assure the long-term viability of our patient-care goals.

To address these considerations, a business plan was developed early in the planning phase of each center. It was necessary to demonstrate that 1) sufficient patient volume would exist to utilize the center at or near capacity over several years; and 2) revenues from this patient volume would cover the cost of building and operating the center.

Once the business plan for each new center was completed, a complex process ensued. It was necessary to identify a source of funding for design, construction, start-up, and (if necessary) ongoing support of each center. Those centers located on the campus of a community-based hospital have been, in general, funded by that community hospital. The exterior design of each center is, of course, unique to its individual setting. However, to deliver consistent patient-care services, the interior components and patient flow are similar among all ICC facilities.

Early in the process of design and construction of each new center, we attempted to identify and hire a medical director and a nursing/administrative director. These individuals must become strongly tied to the ICC so that they understand the patient-care paradigm that will be utilized at the new center. In addition, they must understand the community/hospital into which the new center will become integrated.

When the construction of the center nears completion, the infrastructure must be developed for integrated medical and radiation oncology physician care, chemotherapy and radiation therapy treatments, and clinical trials participation. If not already in existence, the local multidisciplinary tumor conference must be established. A marketing program to promote the center within the community is necessary as well.

INTEGRATION WITH LOCAL PHYSICIANS

The growth of University Hospitals Health System has been characterized by a partnership with multiple community hospitals and physician practices. UHHS has provided resources to build new programs and hire additional physicians as needed. The goal has been to enrich the services available at each community site, rather than to draw patients from the community setting to the academic center. Similarly, in developing community-based ICC facilities, our goal has been to simultaneously integrate these services into the community, while maintaining the integrity of our highly differentiated patient-care product.

Although patients have uniformly viewed the availability of new services close to home with enthusiasm, physician reactions have been mixed. Some have feared that the ICC would bring with it competing physicians in their fields and that many patients would be drawn out of the community to the academic center. It has been important to clearly explain that the ICC will utilize primary care physicians, surgeons, and medical subspecialists already practicing in the community to care for cancer patients. Only the most complex patients, representing less than 1 percent of new cancer patients, will require referral to a tertiary care center. Once physicians in the community realize that the arrival of a new ICC facility represents an opportunity to treat locally many patients who might otherwise have traveled

elsewhere for their care, they have generally become accepting of the new facility.

The development of each new ICC facility represents an opportunity to increase the volume of cancer patient care in that community. While this may well benefit most physicians, the ICC does potentially represent "competition" for those medical and radiation oncology physicians in the community. Ideally, the ICC would like to attract high-quality medical and radiation oncology physicians already practicing in the community to practice at the center, thus providing opportunity rather than competition. While remaining steadfastly committed to the ICC model of care, we have approached many community-based medical and radiation oncologists in an effort to integrate them into our program.

The process of developing relationships with those medical and radiation oncologists who predated the presence of the ICC in a community has been a significant challenge. We have experienced some successes and some failures in this regard. The key to our successes has been the alignment of incentives among the ICC, the community-based medical radiation or medical oncology physicians, and the community hospital.

In an effort to facilitate the integration of physicians in the community into the ICC, we have been as flexible as possible with regard to the employment structure of the medical oncology physicians. Existing models include private practice, salary compensation, or a salary model with a productivity incentive. Individual medical oncology physicians affiliated with the ICC have even shifted among these models from year to year. To date, all of the radiation oncology physicians affiliated with the ICC have joined a single practice group.

Noting that physicians may be compensated through a variety of mechanisms as described above, a structure unrelated to financial compensation is needed to programmatically link physicians to the ICC. This has been accomplished through the designation of each physician as a "Member of the Ireland Cancer Center." For a physician to practice at an ICC facility, the physician must satisfy the necessary criteria for ICC membership. This designation is renewed biannually. Requirements for membership include compliance

Hospital Partnership Creates A Network of Care in Ohio Communities

by L. Kenneth Taylor

The 1990s saw a flurry of activity among health care facilities in northeast Ohio as organizations reacted to the ever-growing pressures to contain costs from Medicare, Medicaid, and other insurers. They reacted as well to the growing threat of for-profit chains such as Columbia and Primary Health Systems, while trying to maintain "high-tech, high-touch" personal care to patients. In the midst of this unrest, the Boards of Trustees of Southwest Community Health System and its subsidiary, Southwest General Health Center, undertook the task of determining whether the Health Center should remain totally independent or join with a major network.

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The result of this intense two-year effort was a decision by the boards to enter into a "partnering" agreement with University Hospitals Health System. Although the board considered many factors, the key was a desire to have the capability of a net inflow of care into the communities served by Southwest General Health Center. The partnering agreement had as core elements that the hallmark services of Rainbow Babies and Children's Hospital, MacDonald Women's Health programs, and Ireland Cancer Center would be introduced to the Southwest campus.

Southwest General Health Center is a full-service community hospital. It operates 336 beds; employs more than 1,500 full-time equivalent employees; and has more than 600 physicians on the medical staff. It has approximately 14,000 discharges per year; 240,000 outpatient visits; and 40,000 visits to its level II Trauma Center.

Under the partnering agreement, Rainbow Pediatric Services, Perinatology, and Neonatology were introduced rapidly while the timetable called for introduction of Ireland Cancer Center in 1999. Southwest General Health Center recognized early that the Ireland Cancer Center was a "branded"

with the essential feature of ICC care as outlined in Table 1.

SUMMARY

The development of a network of community-based delivery sites at the Ireland Cancer Center is based on decisions pertaining to services and geographic location that are unique to the health care market in northern Ohio. In addition, the extent to which existing medical and radiation oncology physicians have been enthusiastic about joining the ICC has depended on the unique characteristics of each community. However, the steps that were followed in developing and implementing this plan apply to most health care systems.

First, clarify the financial and programmatic goals of establishing a cancer center at one or more locations and define the product to be delivered. If the organization providing the funding for the facility is large and complex, ascertain that individuals at the senior level within the organization are comfortable with these goals and expectations. Synergy must exist between the strategies of the larger institution and the cancer program.

Next, conduct a market analysis to determine the potential market share and predicted patient volume at each location. Then, develop an infrastructure to maintain the consistency of the service being provided. An organized quality assurance program is needed to provide a forum for ongoing self-analysis and innovation.

Avoid the use of advertising to promote a product that is without substance. Remember that cancer patients are sophisticated consumers of medical care. Generally, they can distinguish variations in quality among available facilities.

Understand the reimbursement structure for cancer care in each community to predict the revenues that would be generated. Clarify if these revenues would be sufficient to offset the costs involved in developing and operating community-based cancer care facilities.

Finally, understand the patterns of physician referral within a community and the underlying incentives involved in these referrals. Flexibility is key when exploring models for cooperation among physicians. However, be careful not to compromise on core elements of the patient care product in order to avoid friction within the community.

product because of its unique designation as only 1 of 35 comprehensive cancer centers in the entire country. Accordingly, a considerable effort was made by senior management from both the Ireland Cancer Center and Southwest General Health Center to encourage practicing oncologists at Southwest General to join the Ireland Cancer Center.

Southwest General Health Center has maintained a cancer program accredited by the American College of Surgeons prior to the partnering agreement. Thus, all the elements of a cancer program were in place except for access to research protocols, a full-time medical director, and the establishment of a multi-disciplinary approach to care. Clearly, the Boards of Trustees intended to move the cancer treatment programs of Southwest General Health Center to the integrated, comprehensive approach of the Ireland Cancer Center when the partnering agreement was signed.

Their decision worked well with the changing demographics of the Southwest area where the age 60-plus population was expected to expand from a ratio of 1 to 8 with the younger population to 1 to 6 in the days ahead, suggesting an increase in cancer diagnoses.

A search for a full-time medical director was undertaken, and an individual was appointed to the position in November 1998. The new medical director began seeing patients in early 1999 and by year's end treated nearly a full complement of cancer patients. It is anticipated that a second oncologist from Southwest General Health Center will be appointed as a member of Ireland Cancer Center by April 2000.

Reaction by the oncologists who have practiced at Southwest has been to view the Ireland Cancer Center with skepticism and as a possible major competitive threat. However, considerable effort has been made, and we will continue to find ways to incorporate the community oncologists into the Ireland Cancer Center.

The financial analysis of the comprehensive cancer program showed that even with the $8 million construction costs, the program would reach break-even during the second year and begin to show a return thereafter.

The new infusion area of the Ireland Cancer Center at Southwest General Health Center opened in February 2000, with radiation therapy planned to open in April 2000. While too soon to conduct any follow-up patient survey, the anecdotal comments reported from patients and families on the new Ireland Cancer Center have been highly favorable.