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Marilyn Mannisto Evans

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The Challenges of Adopting New Modalities

By Marilyn Mannisto Evans

Hospital and cancer program management face a variety of challenges in adopting new state-of-the-art treatment modalities. This article examines such issues as appropriate technology development, competition for funds with other product lines, hospital costs vs. reimbursement, obtaining reliable data to evaluate the potential return on investment, and the recruitment of experienced personnel.

The decision of whether or not to adopt new cancer treatment modalities, and the many issues that must impact that decision, are giving cancer program and hospital management cause for concern. New treatment modalities are advancing so rapidly that the trends of a few years ago—dedicated oncology units, hospice care, linear accelerators—are being eclipsed by such highly-sophisticated technologies as autologous bone marrow transplantation (ABMT), high-dose brachytherapy, and genetic engineering. Moreover, these new modalities carry much higher price tags and require highly-sophisticated equipment and personnel. In today's environment of economic constraints, how management decides to cope with this onslaught of technological innovation could make or break their cancer programs.

Targeting New Modalities

"The targeting of new cancer modalities must be done by the program staff," contends Robert T. Clarke, M.H.A., Chief Executive Officer of Memorial Medical Center, Springfield, IL. "They are the ones who are most in tune with where the greatest hope lies for improving cancer care. It is up to them to come up with a laundry list for administration, to prioritize those items and, in making up that list, to take into account overall opportunities and limited funds."

But, according to Ronald Deisher, Executive Director, The Cancer Institute

Marilyn Evans is managing editor, Oncology Issues.

of Kansas City, MO, "Today's rapid advances in technology, make it difficult for cancer program administrators to know for certain which therapies ought to be introduced." Those rapid advances also put increased pressure on administrators "to be reasonably familiar with technology development," Deisher says. "They'll have to be if they're to work effectively with physicians and hospital administration in making appropriate decisions on which technologies to support and introduce in their centers," he warns.

Moreover, Deisher points out that although "it's important to adapt and integrate new modalities in a timely manner, often there isn't total agreement among the physicians on staff regarding their appropriateness or efficacy." For instance, he says, "there is still significant disagreement among urologists regarding the use of PSA tests in prostate screening and among oncologists about ABMT." And he adds, "When there is not widespread agreement among your physicians, it is difficult to decide on a level of support. Many of these technologies represent an enormous investment for the hospital."

Such decisions "must be based on the competitive marketplace and the institution's internal resources," says Jennifer L. Guy, Administrator of Oncology for the Saint Anthony Regional Oncology Center, Columbus, OH. But you also can't neglect the institution's mission. "The mission of our system," Guy says, "is to take care of the poor. How does adopting fourth-modality treatments applicable to a small percentage of patients balance with that mission?"

Deisher agrees that mission is an important consideration in new technology development. "Our Cancer Institute's mission is to coordinate and strengthen cancer care resources and services for patients and their families. That could mean adopting new technologies that enhance the quality of cancer care services, or it could mean not adopting all of them. For instance, if we can adequately strengthen our resources by buying and sharing one piece of equipment or new service, that is what we should do."

The main reason why the Queen's Medical Center Cancer Institute decided to develop an ABMT program is that "an autologous transplant was not available elsewhere in Hawaii," says Luana Lamkin, Executive Director. "Patients had to travel 5,000 miles to the mainland to receive an ABMT." And, she adds, "the good reports about its use for solid tumors increased our interest."

Sometimes, however, cancer programs find it is in their best interest not to target certain new modalities. For instance, according to Dean Gesme, Assistant Medical Director, Mercy Medical Center, Cedar Rapids, IA, the institution has made a conscious decision not to get involved in many "flashy, high-tech modalities" at this time, but to maintain its focus on basic clinical research. Gesme says that the program is "positioning itself to be on the leading edge of accepted new technology," but does not believe that investing in "new, high-tech procedures would result in improved patient care when we have the University of Iowa providing those services 25 miles away." As a result, instead of trying to "compete head to head with the University," Gesme says that the cancer program "plans to wait for new technologies to become fairly well accepted before we adopt them. But we don't plan to wait until they are already considered standard care." In other words, Gesme says the institution is focusing on providing "standard bread and butter care in keeping with the latest guidelines."

Key Decisionmakers

The decisionmakers in technology adoption questions vary from institution to institution and from technology to technology. When the Queen's Cancer Institute decided to start up an ABMT program, key decisionmakers in the planning process were the medical director, the chief operating officer, and the executive director, Lamkin. "Of course, we also involved nursing units and other departments before a final decision was reached," Lamkin says.

A cancer planning task force, comprised of 18 physicians including primary care and appropriate specialties, suggests



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—RONALD DEISHER

what new cancer modalities should be initiated at St. Joseph Medical Center, Burbank, CA, according to J. Gale Katterhagen, M.D., Medical Director of the hospital's comprehensive cancer center. "But management, of course, has the final word on new programs," Katterhagen says.

At Good Samaritan Medical Center, Portland, OR, it is key physicians and the medical director who guide the institution's involvement in new cancer modalities. For instance, the start-up of a high-dose brachytherapy unit was "initiated by the radiation oncology group," says Martha Wangenstein, administrator of the cancer program. "The planning process, which took about six months, involved all of those physicians, another radiation oncologist in private practice, the physicist, and the chief technologist."

Finally, there is a central cancer committee that oversees program development at each of the five New York-based hospitals that comprise the Catholic Medical System. I. Joseph Aprile, M.D., administrator of the cancer program at Catholic Medical Center of Brooklyn and Queens, says that "all decisions regarding any new

programs or the expansion of programs come from the central committee, which reports to the medical board."

The Quest for Data

There is uniform consensus about the need for sound, meaningful data in making program development decisions. "It's a continuing challenge, especially in terms of new technology and equipment, to have good data. But that is a must in today's world," says

Wangenstein of Good Samaritan Medical Center. When she was performing the financial analysis for a high-dose brachytherapy program, Wangenstein relied on "regular tumor registry information, but also data specific to certain areas, such as radiation oncology, as well as financial data. You must know the real costs and

real levels of reimbursement, not just charges," she warns. "That is particularly important in a market like ours which is dominated by managed care."

Moreover, because Good Samaritan belongs to a five-hospital system based in the Portland area, Wangenstein used "historical data from the tumor registries and radiation oncology departments at the other four institutions, which will all be referring patients to the unit." She also involved the hospital's business services in checking reimbursement for the procedure and she "talked with another hospital that had a brachytherapy program in operation for 10 months." The financial projections that Wangenstein came up with included a bad debt ratio. "They were very conservative projections. In fact, real patient volume is already double what we predicted."

Robert Angeloni, Administrator of the Scranton (PA) Regional Cancer & Imaging Center, has "preliminary data on the volume of patients we can expect to see if we set up a brachytherapy unit. Based on the neurological, obstetrics/gynecology, and pulmonary departments and patient loads, we believe we will have sufficient patients to sustain

"Our mission is... the poor. How does adopting fourth-modality treatments balance with that mission?"

—JENNIFER L. GUY



such a unit. There are two other units in town that are very well utilized and we're currently sending a number of patients out of our hospital to receive the therapy," he notes. The institution expects "a payback from the unit in about two years, and that's after paring down the potential patient volumes and being very cautious about our projections," Angeloni explains. But it is a "therapy that is applicable to various cancer sites and will give us the ability to treat a variety of cancers."

Greg Fecteau, Administrator of the Mid-America Cancer Center, Springfield, MO, based his financial analyses for a proposed ABMT program on tumor registry data (number of applicable cases treated, number of patient referrals to other ABMT programs, demographic information for Hodgkin's disease, Non-Hodgkin's lymphomas, and breast cancers). "You must also have the ability to identify associated costs, and to determine if you have the appropriate resources and what the return on investment will be," he says.

Fecteau also maintains that it is "important to look at the costs of standard therapy because these patients will still be in the system, whether or not they receive an ABMT. For instance, we pulled the files on two patients who were potential candidates for ABMT and tallied their medical bills, which amounted to \$65,000 and \$68,000 throughout their courses of treatment. With the advent of GM-CSF, we are close to matching that level of cost," Fecteau says. In fact, the Center expects the costs of transplants will be about \$85,000, which will still provide the institution with "a narrow margin of profit."

Katterhagen of St. Joseph contends that "getting good, useful data regarding the implementation and maintenance of a new program, including the costs of renovation, the cost of the technology, recruitment, staffing, the number of potential patients, payor mix, and the expected response of



“Getting good, useful data regarding the implementation and maintenance of a new program is a problem.”

—J. GALE KATTERHAGEN

referring physicians, is a problem. It's difficult to come up with meaningful figures. Most programs rely on 'best guess' data, which is very disturbing when you are dealing with limited capital." Moreover, Katterhagen points to the difficulty of projecting "what the costs and reimbursement for a new modality will be like five years from now. Many administrators are using very soft data that are based on questionable assumptions," Katterhagen says.

Deisher also suspects that in actuality, "too little market research is done. It's my experience that these rapidly developing technologies tend to overwhelm administrators, and they're almost compelled to make decisions based on political pressures, rather than the actual market and patient needs."

"A common failing of cancer programs is to perform a cost-analysis of one modality and, if projections show a negative cash flow, management doesn't adopt the technology," says Clarke, CEO at Memorial Medical Center. "You must consider the 'halo effect' and collateral effect of the technology," he maintains. That is, "what collateral patients will come into your institution based upon possible eligibility for the new technology, even though they may not end up being candidates for the treatment."

Clarke contends that market research not only needs "to estimate the number of patients with a certain type of cancer that could benefit from a new modality, but the percentage who could qualify for treatment with the modality, and the number of patients you are likely to get out of the total market share." He believes that the "greatest challenge to financial and clinical people is to calculate what may occur as a result of the halo effect and collateral benefits."

Marketing Clout

"We've broadened the number of technology choices at our institution," Clarke says,

because "you end up with more patient referrals. Even though a particular modality won't generate a positive cash flow, if you don't have a full range of cancer treatment modalities, you will lose patients."

Angeloni, Administrator of the Scranton Regional

Cancer & Imaging Center, concurs. "I've been involved in community cancer programs for more than 10 years, and I know that the ability to attract patients and physicians is dependent on the services that they perceive you have, and their comfort level with your ability to provide a broad spectrum of services and experienced personnel. This is a silent marketing tool; knowing you're as good as your competitors."

Therefore, Angeloni says that his center "looks at new modalities

from a competitive vs. cost standpoint. Certainly cost is a factor. You must make sound decisions, but you also must keep pace with your competition. If you don't, your program won't be perceived as being as good as the other programs in town."

Fecteau points to the importance of "involving the community in program development plans." If you don't, he warns, "new programs will be difficult to implement." Fecteau's institution has a community advisory board and before the center initiated its ABMT program, it "got a feel for community support." Members of the advisory board spoke with community representatives, and items about the proposed program appeared in local newspapers. As a result, Fecteau says, "the community is rallying around the program."

Reimbursement Constraints

Deisher believes that reimbursement is a "growing issue of concern to program administrators, because it is forcing activities into the office and outpatient settings. That," he says, "is putting pressure on the cancer program's bottom-line and on administrators to move away from the

comprehensive approach to care. It makes it more difficult for administrators to support some very important cancer activities, such as rehabilitation and supportive care services."

Moreover, as far as high-tech modalities are concerned, Deisher says that "it will be difficult to institute some of them because they are going to involve a great deal of expense and insurers are reluctant to reimburse for them." As a result, he says, "administrators will be hard put to support some of them." He also predicts that "as reimbursement grows tighter, honest, sincerely felt differences of opinion on where resources should be spent are likely



“Transplant costs will be about \$85,000, which will still provide “a narrow margin of profit.””

—GREG FECTEAU

to occur. Should we invest in expensive modalities that only benefit a few patients, or focus on prevention and early detection to improve morbidity and mortality outcomes for many? With the growing awareness of limited, finite resources, we are already rationing care," Deisher contends. "Look at the Oregon model for Medicaid. That was a conscious decision to provide good primary care for many rather than organ transplants for only a few."

"Reimbursement is becoming a major dilemma," Angeloni notes, "especially for radiation therapy services. Projections and cuts have everyone frightened and concerned about the next three to five years. I'm sure we will adjust, as we have in the past," he says, "but third-party payors are making it difficult to provide quality of care to all patients regardless of their financial status, which is our mission."

When Queen's Cancer Institute decided to start up an ABMT program, it didn't require patient payment up front. But, according to Lamkin, it is now "developing a policy that if a patient's insurance will only pay for 80 percent of the costs of the procedure, the patient is responsible for the remaining 20 percent, and we will try



“New treatment modalities are usually add-on costs to the institution and they don’t usually offset other technologies”

—ROBERT T. CLARKE

to collect that 20 percent up front.” Such a policy is necessary because of ongoing reimbursement difficulties. “We are still negotiating with Hawaii Medical Service, our Blue Cross/Blue Shield affiliate. They originally suggested an inclusive fee of \$80,000 for our services, components performed at another hospital here, and all physician charges. We are uncomfortable with that. The figure would not allow us to break even, and we don’t think the hospital should be disbursing funds to its physicians.”

When Fecteau initiated financial forecasts for Mid-America’s ABMT program, “they included a pro forma loss from those patients who would not be able to pay the difference between insurance coverage and the actual cost of the procedure,” he says. As far as the indigent and uninsured are concerned, Fecteau says the Center will have to “judge each case on an individual basis.” But he believes that “physicians are becoming more astute in knowing the hospital’s bottom-line.” Accordingly, Fecteau predicts that they will “structure their referrals so that patients without any means of paying probably won’t be referred for an ABMT.” However, they did budget for bad debt in their program.

“It’s important to realize,” Clarke says, “that new treatment modalities are usually add-on costs” to the institution, “and they don’t usually offset other technologies. There are exceptions, such as lithotripsy, which is one of the few cost-saving technologies which actually offsets surgery costs and decreases lengths of stay. But that doesn’t often happen with new technologies. You must recognize that the cost picture vs. fixed reimbursement may worsen rather than improve,” he says.

Competition from Within

Katterhagen contends that “it’s a lot harder to push a program through in these days when the dollars are tougher to come by.

Every program is clamoring for those dollars and there are many more players competing for decreased capital funds.” But the bottom-line, in Katterhagen’s opinion, is whether or not a proposed program “makes sound medical sense and business sense to the medical staff. The pro-

posal, whether its developing an ABMT program, purchasing new machinery, or whatever, has to make good business sense. If it doesn’t, it won’t fly,” he warns.

The ABMT program at Queens Medical Center in Honolulu was “surprisingly easy to implement,” Lamkin says. “There was some concern, primarily that we would perform enough procedures to be proficient, but there was no real dissension on the part of other product lines regarding the outlay that would be necessary to implement it. Also, our financial people, both the chief financial officer and the chief operating officer, were supportive, even though they knew the program would not break even for a year or more. But the medical director convinced them that, after that time, it would be a covered service.”

But, “given inpatient oncology losses, there are only so many dollars the hospital is willing to allocate to the cancer product line,” Guy notes. And, unfortunately, she adds, “many hospital financial officers can’t track how the dollars allocated to inpatient care accrue dollars on the outpatient side.”

Clarke explains that management at Memorial Medical Center “looks at the total cancer product line and whether or not, overall, it has a positive trend line, market share, total volume, etc. If a positive trend for that product line reverses, then we will have to look at individual programs and modalities within that product line.” However, the amounts allocated for program development are prioritized by product line, Clarke says. Currently, cardiology is the largest and most profitable product line for the institution. But, Clarke predicts that “given the general statistics of cancer, oncology will probably be the largest product line in the future; it’s coming of age.”

Similarly, Wangenstein says that the oncology product line at Good Samaritan in Portland is “fortunate in that we are looked at as a product line, not individual

programs within the area of cancer.” As a result, she says, “we can offer added value components, such as cancer screening services.” She also contends that competition among product lines for the funding for new programs should “not be a problem as long as you have good, reliable data.”

Recruitment

Both Guy in Columbus, OH, and Lamkin in Honolulu, HI, say it is difficult to recruit experienced personnel, particularly nurses with skills in oncology. In fact, many of the managers rely on minimal recruitment and, instead, provide intensive training of cancer care providers who are already on staff or inexperienced recruits, particularly nurses and pharmacists. Lamkin says that they were able to recruit “four nurses with ABMT experience. The rest of the staff had two weeks of intensive classroom and application training.” Moreover, the four nurses that were recruited spent a week at the BMT program at Dana-Farber Cancer Institute in Boston. However, the necessary, experienced medical staff was already on board.

For the proposed brachytherapy program at the Scranton Center, Angeloni is currently recruiting an additional radiation therapist “with significant experience in this area.” Otherwise, he says, “we have sufficient site capability as far as staffing is concerned.”

Fecteau emphasizes the need for “a clinician with experience in ABMT up front. The most integral part to putting together an ABMT program is having a physician who is interested in the program and has the expertise to help put it all together.” Fecteau’s Center already had three physicians on staff with experience in ABMT. The Center also recruited an experienced nurse manager for the transplant unit and other, internal nursing candidates “will be going to the center at the University of Nebraska Medical Center for training. This will give us a core group that can help educate other staff members,” Fecteau says.

Recruitment is a difficult task for Gesme of Mercy Medical Center in Cedar Rapids, IA. “Compensation here is fairly low, the number of new oncology patients is high, which makes for a high work load, and we’re surrounded by corn fields,” he notes. “We have had good luck in that once we get physicians here, they tend to like the lifestyle here and the turnover rate

is low." Moreover, Gesme is leery of what impact the forthcoming resource based relative value scale (RBRVS) of payment for physicians under Medicare will have on future recruiting efforts in an area that has a high Medicare population.

Clarke of Memorial says that he has come up with a "new conceptual model for program development and new modalities in conjunction with our search for a new medical director for the cancer center. I'm thinking of giving 'x' percentage of all total new net clinical income from the cancer program over the next couple of years, plus a seed grant from our foundation for the next three years, and it will be up to the medical director to come up with a plan for using those monies," Clarke explains. "I want to create incentive for the new program director to develop clinical programs that will help retain our oncologists and not drive them away into private practice."

Does High-Tech Belong in the Community?

At a recent seminar at the National Cancer Institute, William Peters, M.D., Ph.D., head of the bone marrow transplant unit at Duke University Medical Center, Durham, NC, stated that "bone marrow transplants should only be performed in academic centers and by investigators who don't have a financial profit motive for performing the procedure" (that is, salaried physicians). Although Peters admitted that "community physicians are a vital part" of Duke's program, he contended that "the learning curve is such that this complex procedure needs to be done in a highly-specialized setting." In fact, he explained that before an institution can enter patients on Duke-sponsored trials, "they must demonstrate their proficiency to a quality assurance committee."

"There is real logic to that point of view," Deisher says. "I think experimental trials with ABMT must be done in a setting with a sufficient number of patients to ensure that the physicians are proficient." Deisher's Cancer Institute has no plans to begin an ABMT program, but it is exploring the possibility of autologous stem cell transplants which, Deisher believes, "in the long-term, may not be quite as necessary to limit to highly-specialized centers. I think there is a strong position that this treatment is appropriate for select patients at the community level."

Katterhagen emphasizes the need for "proper expertise and coordination of

services if you are going to do [ABMT] right. Like coronary artery bypasses, the more you do, the more patients you see, the greater your chance to significantly impact morbidity and mortality," he says.

"I don't believe there is any blanket answer as to which modalities are appropriate to deliver in a community setting," Angeloni says. "It depends on how quickly technology advances and is disseminated," he says. Moreover, he predicts that "applications of new modalities in the community setting will develop in areas we least expect at the present time. And," he asserts that "there are too many qualified oncologists in the community setting, who have come from university centers, and who are fighting for programs to proliferate and expand," for the push for high-tech medicine in the community setting to diminish.

Deisher echoes that view, predicting a "growing interest at the community level in new, high-tech procedures, because there are more and more highly-trained and highly-qualified oncologists practicing at the community level, who provide the incentive to look at these procedures." And he believes that those community-based oncologists will "want community cancer program administrators and hospital administrators to do these procedures at the community level."

Another possible way to improve community access to new technologies may be affiliations with comprehensive cancer centers (CCCs). For instance, Fecteau says, "some of the research conducted in large institutions, such as work with tumor infiltrating lymphocytes (TIL), is difficult to sponsor at the community level. One of our goals is to affiliate with a comprehensive cancer center to increase the number of patients on clinical protocols, to improve technology transfer, and perhaps to perform some cancer control studies." He thinks that "CCCs heighten the awareness of what's going on and help provide the best patient outcomes possible. I believe we can improve our services by affiliating with an academic center."

Katterhagen asserts that although there is "a lot of talk about affiliations with CCCs, in actuality, they are limited. CCCs



"We are still trying to get one of the three ABMTs that we've performed, to date, paid for"

—LUANA LAMKIN

have just as many financial problems as we do." Such affiliations will work, Katterhagen says, "if both institutions can profit from it." But he points out, "a hospital can enter into a dialogue with a CCC, but it's the physicians on staff that refer patients. It's not so much a relationship of hospital to hospital but of community physician to academic physician."

A unique arrangement in Portland, OR, has not only prevented duplication of ABMT services among competitors, but it has provided competing institutions with access to the same ABMT unit. A consortium of five Portland-based hospitals, known as the Columbia River Oncology Program, was formed to provide access to clinical trials and cancer control trials.

However, according to Wangenstein of Good Samaritan, which is a member of the consortium, "we also share an ABMT service that is based at one of the institutions. Physicians from the other institutions have privileges at the ABMT unit to admit and treat patients. The hospital in which it is housed completed a business plan and decided to foot the start-up costs, although the other hospitals were willing to share those costs. It's now been in operation for two years," and, she says, as a cooperative program among competitors, "it has worked amazingly well."

But the bottom-line, according to Katterhagen, is that "community-based programs have a limited ability to keep on top of new diagnostic and treatment innovations." He predicts that only the "large programs with 300 or more beds which are well-managed, have good cost accounting systems, the support of key physicians, strong medical and administrative cancer directors, maintain a healthy margin from operations (4 to 5 percent), and have an administration and board that make the cancer program a continuing priority within the institution will be successful." ■