LEADERSHIP & PROFESSIONAL DEVELOPMENT

Implementing an Interdisciplinary Governance Model in a Comprehensive Cancer Center

Patricia Reid Ponte, RN, DNSc, FAAN, Anne H. Gross, RN, MS, CNAA, Eric Winer, MD, Mary J. Connaughton, MS, RN, and James Hassinger, MEd

Interdisciplinary collaboration, in which decision making and accountability are shared by members of different disciplines, is a central feature of oncology clinical practice, but it rarely is built into the governance and management structures that oversee oncology clinics. In many ambulatory settings, decisions affecting clinic operations are made centrally by those removed from day-to-day activity. Front-line nurses, physicians, and other staff who are most familiar with patient care and operational issues have less input.

In the late 1990s, ambulatory oncology services at the Dana-Farber Cancer Institute (DFCI), a comprehensive cancer center affiliated with the Harvard Medical School, began to experience extraordinary growth in patient volume. Like other cancer care providers, DFCI witnessed steady growth as a result of the aging of the general population and improvements in cancer diagnosis. A joint venture with nearby Brigham and Women's Hospital intensified the growth. As patient volume and acuity surged, the ambulatory practices at DFCI were increasingly challenged to keep up with demand and pressured by patients and referring providers for timelier access to appointments.

As the practices struggled to accommodate the needs of patients and referring physicians, the chief executive officer (CEO) and DFCI's other senior leaders considered the Institute's clinical infrastructure and determined that its operational systems and governing structure needed to be evaluated. They realized that, over time, the organization's culture and management style had become more controlled and less inclusive; they believed that a more responsive governance and management model—one that placed decision making and responsibility for change in the hands of those most familiar with day-to-day operations—would benefit the Institute, its staff, and the patients it served.

In December 2001, the CEO, senior vice president for patient care services, and chief nurse appointed a multidisciplinary task force to design a new governance and management structure for ambulatory operations. The goal of the task force was to achieve effective, locally based decision making in each of the Institute's 12 disease centers. As part of their deliberations, the task force considered what needed to be in place to achieve that goal and identified two essential criteria: The knowledge and perspectives of the different disciplines involved in care operations must be represented in the decision-making process, and members of each discipline must feel responsible for the implementation and outcomes of decisions that are made. Such interdisciplinary collaboration was familiar to the task force, given that it is integral to the Institute's care-delivery model and its quality-improvement and patient-safety programs. Collaboration also is a key characteristic of the leadership structure for inpatient oncology care as evidenced by the RN/medical doctor (MD) leadership teams that have overseen the inpatient units since 1994. Although interdisciplinary collaboration was valued by the ambulatory nurse managers, structures to promote its occurrence were not built into the ambulatory services governance model then in place. The task force agreed that in designing a new governance model, interdisciplinary collaboration would be a cornerstone that informed not just the new model's structure but also the processes used to make decisions and manage operations on a daily basis.

In this article, the interdisciplinary governance model developed by the task force will be described, the process used to design and implement the model will be reviewed, and how the model ensures accountability, communication, and collaboration among disciplines and how it has helped DFCI achieve substantial improvements in clinic operations will be discussed.

Patricia Reid Ponte, RN, DNSc, FAAN, is the senior vice president of patient care services and chief nurse at Dana-Farber Cancer Institute and the director of oncology nursing and clinical services at Brigham and Women's Hospital, both in Boston, MA; Anne H. Gross, RN, MS, CNAA, is the vice president of adult ambulatory services and director of adult ambulatory nursing at Dana-Farber Cancer Institute; Eric Winer, MD, is the director of the Breast Oncology Center at Dana-Farber Cancer Institute and an associate professor of medicine at Harvard Medical School in Boston; Mary J. Connaughton, MS, RN, is the president of Connaughton Consulting in Newton, MA; and James Hassinger, MEd, is a management consultant with Hassinger and Associates in Peterborough, NH.

Leadership & Professional Development

This feature provides a platform for oncology nurses to illustrate the many ways that leadership may be realized and professional practice may transform cancer care. Possible submissions include but are not limited to overviews of projects, interviews with nurse leaders, and accounts of the application of leadership principles or theories to practice. Descriptions of activities, projects, or action plans that are ongoing or completed are welcome. Manuscripts should clearly link the content to the impact on cancer care. Manuscripts should be six to eight double-spaced pages, exclusive of references and tables, and accompanied by a cover letter requesting consideration for this feature. For more information, contact Associate Editor Paula Klemm, PhD, RN, OCN®, at klemmpa@udel.edu or Associate Editor Judith K. Payne, PhD, RN, AOCN®, at payne031@mc.duke.edu

Collaboration and Teamwork in Health Care

The value of interdisciplinary collaboration in health care has been examined by many healthcare researchers and practitioners. A number of investigators have assessed its effect on patient care and the education of healthcare practitioners and have demonstrated benefits for a range of patient and student populations (see Table 1). The importance of interdisciplinary collaboration to quality improvement has been underscored by two landmark reports from the Institute of Medicine (IOM). The first, *To Err Is Human: Building a Safer Health System* (IOM, 2000), cites the essential role that interdisciplinary teams play in efforts to improve patient safety, and a follow-up report, *Crossing the Quality Chasm: A New Health System for the 21st Century* (IOM, 2001), cites the teams' fundamental importance to all improvement efforts.

The management literature also describes the importance of interdisciplinary collaboration by discussing how teamwork favorably affects organizational performance (Kouzes & Posner, 1995) and highlighting the success of corporations that embrace the principles of self-managing work teams (Katzenback & Smith, 1993). Today's healthcare organizations, which contend with numerous and complex external factors and rely on the knowledge of a broad range of constituencies, providers, and professions, arguably need to develop governance models that engage all key stakeholders and apply the principles of partnership, equity, and accountability (Porter-O'Grady, Hawkins, & Parker, 1997). Despite the recommendations, interdisciplinary collaboration rarely is a feature of the leadership and governance models employed by ambulatory oncology practices, not because those who oversee such settings do not value collaboration, but because structure to facilitate collaboration and ensure its occurrence are not built into the governance model's design.

Former Management Structure

The task force charged with designing a new governance model for ambulatory services at DFCI consisted of representatives from a broad range of departments and disciplines, including managers and staff from nursing, social work, pharmacy, clinical laboratories, radiology, finance, quality improvement, and clinical operations and physician representatives from medical, surgical, radiation, and psychosocial oncology. A patient from DFCI's Patient and Family Advisory Council (Ponte et al., 2003) was also a member of the group. The chief nurse and two physicians, one from medical oncology and the other from surgical oncology, led the group. The task force leaders realized that they were embarking on a major management change that would require a significant time commitment. Given the situation, they opted to engage the support of two management consultants who were familiar with DFCI and had expertise in leadership, management structures, and organizational change.

The task force began by reviewing the strengths and weaknesses of the ambulatory governance model in place at the time (see Figure 1). Under the model, clinical services were administered through 12 disease centers, each dedicated to a specific area of oncology (e.g., gynecologic cancers, neuro-oncology, breast cancer). A physician leader was responsible for each center's research, teaching, and clinical care activities. The physician leader also supervised some of the staff providing care in the disease center, including the physicians, nurse practitioners (NPs), program nurses (staff nurses who work with MDs and NPs to coordinate patient care), and new patient coordinators. The remainder of the staff, including the nurse manager, social workers, pharmacists, respiratory therapists, clinic facilitators, and clinic assistants, reported to the Nursing and Patient Care Services (NPCS) department.

The parallel reporting structure created a number of problems. For example, the disease centers' physician leaders believed that they had little control over and accountability for many administrative functions that affected clinical operations, such as budget monitoring, patient scheduling, and management of front-line support staff, whereas the nurse managers had difficulty overseeing some of the nursing staff, such as NPs and research nurses, who had a stronger alliance with the physician leaders. In addition, effective "bridging" structures were lacking, making collaboration among the disease centers difficult and complicating efforts by the NPCS department to introduce changes affecting clinic operations.

Because of the problems with the management model, decisions regarding ambulatory

Table 1. Interdisciplinary Collaboration in Patient Care and Academia

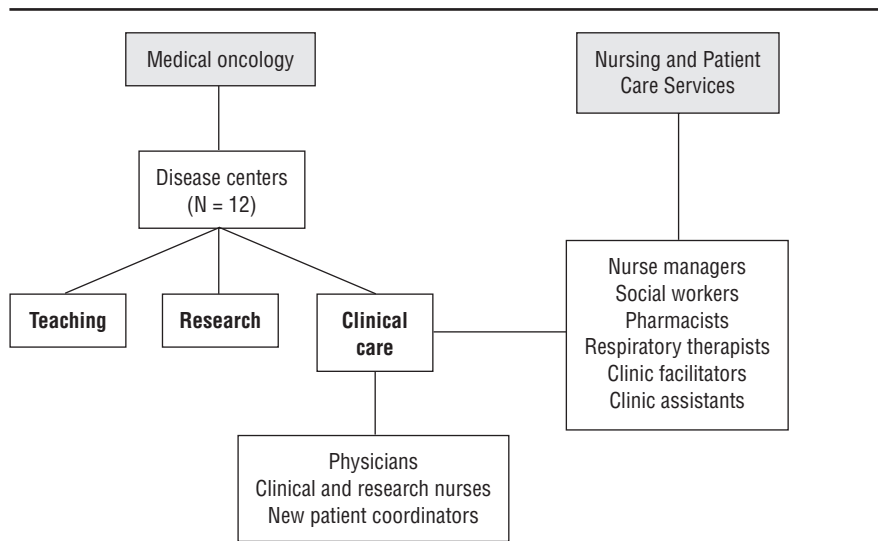| Investigators	Area of Focus	Findings
Patient care		
Abrahm et al., 1996	Impact of multidisciplinary hospice consultation team on the care of veterans with advanced cancer	The team identified a large number of new medical/nursing and psychosocial/spiritual problems and was able to resolve many of the problems it identified.
August et al., 1995	Satisfaction among patients treated at a comprehensive breast center	Overall, satisfaction was high and was influenced by staff concern for patients, opportunity for "one-stop shopping," and medical thoroughness.
Baggs et al., 2004	A review of research on the role of interdisciplinary teams in the care of the dying patient in the intensive care unit (ICU)	Researchers demonstrated improvements in ICU care stemming from collaboration but concluded that additional studies involving more than one unit, unit comparisons, and randomized trials are needed.
Chang et al., 2001	Recommendations for patients with breast cancer	A case review by a multidisciplinary team resulted in treatment recommendations that differed from those of outside physicians for 43% of women studied.
Preparation of healthcare professionals		
Blazer et al., 2005	Genetic cancer risk counseling	A program of intensive training in genetic cancer risk counseling designed to simultaneously train clinicians from different disciplines (e.g., genetic counselors, oncology nurses, physicians) led to an increase in cancer genetics knowledge, increased professional self-efficacy, and changes in practice.
Chang et al., 2005	Cancer Prevention Fellowship Program	The fellowship program draws on multiple disciplines to prepare students for interdisciplinary research.
Siegrist, 2004	Public health nursing experiences in baccalaureate nursing education	A partnership model involving a public health department, academic nursing program, and community agencies increased student skills related to interdisciplinary team work, program development, and cultural competency.

Figure 1. Ambulatory Governance: Old Model

```
Medical oncology                Nursing and Patient
                                 Care Services

Disease centers
   (N = 12)

                                   Nurse managers
                                   Social workers
Teaching  Research  Clinical        Pharmacists
                     care        Respiratory therapists
                                   Clinic facilitators
                                   Clinic assistants

          Physicians
   Clinical and research nurses
     New patient coordinators
```

operations often were triaged to the chief nurse, chief operating officer (COO), or chief medical officer (CMO), who were responsible for all patient care provided by the Institute, including the care provided through the inpatient service, pediatric oncology, and 12 disease centers. Over time, the centralized and often "siloed" decision-making process hampered the flexibility and responsiveness of individual disease centers, contributing to senior leadership's determination that a significant change in the ambulatory governance and management structure was needed.

As the task force considered the structure of ambulatory operations, the members recognized its strengths and weaknesses. On the positive side, the disease center structure allowed clinicians with expertise in particular areas of cancer care to work closely with one another, benefiting research and care delivery. The problems lay with the structure that was used to govern and manage operations within and across disease centers. That structure, the task force determined, was ineffective and required a redesign.

A New Governance Model for Clinic Operations

Before defining a new governance model, task force members identified the following principles to guide its design.
- Representatives from nursing, medicine, and administration—the groups most integrally involved in day-to-day clinical operations—must play a role in guiding decisions and be held accountable for their outcomes.
- Leadership roles, including individual and shared accountabilities, must be defined clearly.
- The model must promote care that is efficient, safe, and patient- and family-centered by fostering timely and effective communication among caregivers and

the coordination of care across programs, departments, and practice settings.
- The model's effectiveness would be assessed by metrics evaluating patient and staff satisfaction, operational efficiency and productivity, and clinical quality and safety.

Over a nine-month period, the task force outlined a new governance model to meet the criteria. During that time, they met frequently with a larger multidisciplinary advisory group to obtain input on the evolving model and held multiple open forums for all clinical staff in which they presented the new model's proposed design and sought input on its structure. They also kept the Institute's executive team informed of their progress through regular reports. At the end of the nine months, the executive team approved the proposed governance model and sanctioned its implementation. The new model (see Figure 2) focuses on redefining the governance and management of clinical services for the 12 disease centers. By design, the model does not affect the research and teaching arms of the disease centers.

Under the new model, each disease center is overseen by an interdisciplinary team composed of a clinical physician director and a nurse program leader, both supported by a program administrator. (When the new model was introduced, the nurse manager title was changed to nurse program leader to make it commensurate with the physician leader's title.) The physician and nurse leaders share responsibility for all aspects of operational decision making and are accountable for managing and improving systems, managing the budget associated with capital and clinic operations, and meeting clinical, operational, and financial targets. They also collaborate on managing the disease center's personnel budget, even though certain employee groups are located in other cost centers (e.g., patient care assistants and nurse managers

are located in the NPCS cost center; NPs and physicians are located in the cost center for the medical oncology, surgical oncology, and radiation oncology departments).

The physician and nurse leaders are responsible for guiding the performance of staff and addressing personnel and performance issues. Working together, they provide input into physician evaluations conducted by the chair of medical oncology and into the evaluations of nurses and NPs that now are conducted by the nurse program leader. (Although NP positions still are located in the department of medical oncology's cost center, performance is evaluated by the nurse program leader rather than the physician clinical director. That change has been viewed as logical by the NPs, and they have readily accepted it.) The nurse and physician leaders also provide input into the evaluations of many clinicians outside the disease centers, including clinicians in surgical oncology, radiation oncology, social work, pharmacy, and other disciplines that provide care across the disease centers and report to the chiefs of their respective disciplines. The chiefs look to the disease centers' physician and nurse leaders for input on whether the clinicians work as members of the team and adhere to practice standards.

Overall, accountability for care that is delivered in a disease center is shared by members of the center's care team. Although each clinician is accountable on an individual level for the care delivered, the care team, along with the disease center's clinical physician director and nurse program leader, is accountable for the outcomes of care delivery in that center and for the quality of the systems that affect and support care.

The clinical physician director and nurse program leader meet regularly with the disease center's staff, a multidisciplinary group that includes nurses, physicians, new patient coordinators, practice coordinators, and clinic assistants. During the meetings, the leadership team obtains input on improvement priorities and initiatives and reviews evaluation metrics. The meetings ensure that the clinicians and support staff in a disease center have input into clinical operations and that the disease center reaps the benefit of the perspective, knowledge, and skills brought by different disciplines.

Promoting Collaboration Across Disease Centers

Several structures ensure collaboration across disease centers. Collaboration among disease centers that share the same floor (and, in some instances, the same clinic space) is ensured through a floor-level leadership structure. All of the disease centers on a floor have the same nurse program leader, who works closely with a designated clinical physician director to coordinate floor-level operations and address shared systems issues.
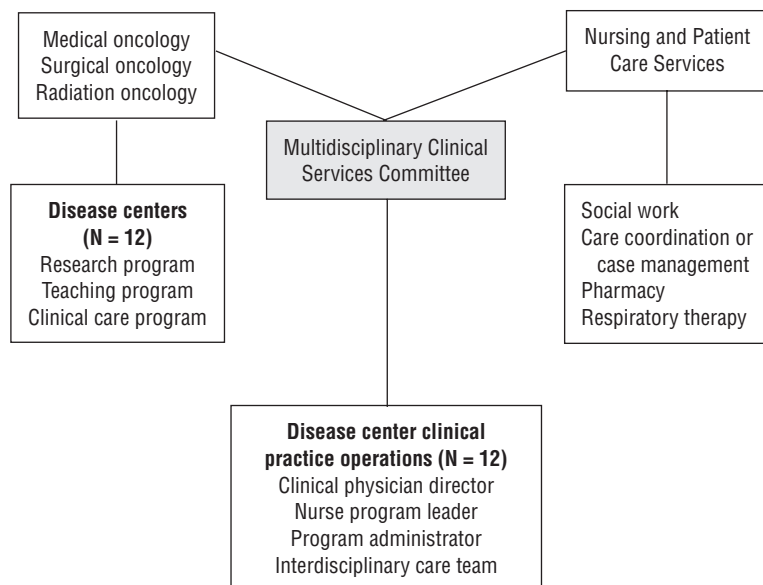
Figure 2. Ambulatory Governance: New Model

Collaboration and coordination across all 12 disease centers are promoted through the Multidisciplinary Clinical Services Committee (MCSC). The committee reports to the Institute's primary clinical departments (i.e., NPCS and medical, surgical, and radiation oncology) and is co-chaired by a senior nursing leader (the vice president of adult ambulatory services and director of adult ambulatory nursing) and a senior physician leader (the vice chair of medical oncology and director of the Breast Oncology Center), who have incorporated the committee and its work into their leadership roles. The committee's membership includes the physician clinical directors, nurse program leaders, and operations managers of each disease center, who work to establish operational priorities for ambulatory services as a whole, discuss and evaluate policies, share information and best practices, and engage in joint problem solving.

The MCSC also serves as a way for centralized departments, such as social work and pharmacy, to provide input into disease center operations. The directors of those departments attend committee meetings and work through the group to introduce changes that affect multiple disease centers. Patient and family input is ensured through the participation of a member of the Institute's Patient and Family Advisory Council, who attends all committee meetings.

Implementation of the New Governance Model

As part of its work to define a new governance model, the design task force considered behaviors and attributes that RN and MD leaders and staff would need to demonstrate for interdisciplinary collaboration to occur and for the new model to be successful. Among those deemed especially important were respect for other disciplines, a willingness to share information and listen to others' opinions, and a tolerance for disagreement. As part of its effort to promote respect among disciplines, DFCI was engaged in a patient safety initiative focused on adopting principles of a fair and just culture and a blame-free systems approach to error investigation and risk management. The initiative complemented the task force's efforts to introduce the new governance model and helped underscore the importance of key behaviors. Although most of the clinicians and staff at the Institute valued the needed attributes, the task force knew that helping leaders and staff members put them into action would be a primary challenge of the model's implementation. That challenge was highlighted by concerns such as those expressed by patient care assistants and others that, too often, decisions in the disease centers were made unilaterally and that staff affected by the decisions were left out of the decision-making process.

The physician and nurse leaders of each disease center were appointed soon after the new interdisciplinary governance model was approved. Although they had a comprehensive job description and had been informed of their new responsibilities, many leaders were uncertain where to begin. The MCSC, which began meeting monthly in September 2002, played a significant role in helping them get started.

During the committee's first meetings, the committee co-chairs guided the disease center leaders through a series of discussions that resulted in the identification of operational priorities and goals for the next fiscal year and changes that had to be implemented to achieve them. The goals targeted specific and persistent problems with clinic operations and aimed to

- Reduce the amount of time patients wait on the days of their appointments
- Improve patient and family satisfaction with waiting time
- Improve billing efficiency by reducing the incidence of missing charge data.

The MCSC also identified outcome metrics that would be monitored to track the disease centers' progress toward meeting each goal. For example, a data collection system was established to monitor the amount of time that patients wait in each disease center. Patient satisfaction with waiting time was tracked using the patient satisfaction survey that was already in place, and billing efficiency was assessed by counting the number of appointments that did not have a charge linked to them 15 days after service was rendered.

Perhaps the most important goal identified by the MCSC was establishing a collaborative way of working, one that involved members of each discipline in effecting change and improving clinic operations. Toward that end, the MCSC co-chairs met regularly with each disease center's leadership team to help them strategize how to implement changes and address other issues in their clinical areas. The disease center leaders, in turn, met with their staff members and clinicians to discuss what the goals meant for them, seek their suggestions for changes, and assign tasks and responsibilities for next steps. By working with each disease center's leadership team to establish shared goals and design initiatives to improve operations, the MCSC co-chairs helped instill a sense of empowerment and accountability in the disease center leaders. More important, they served as role models for the collaborative, interdisciplinary leadership style that was now an expectation.

Results

During the first year, progress toward forming strong interdisciplinary leadership dyads and meeting the goals established by the MCSC varied across programs and floors. To some extent, this reflected variation in the leadership skills of each dyad. Those who quickly grasped the scope of their roles and who were more skilled in working collaboratively with co-leaders and staff accomplished more than those who were reluctant to assume responsibility or who were unaccustomed to working as members of a team. In addition, several of the leadership teams experienced turnover once individuals began to understand their roles and determined that the changes did not match their interests or skills.

In time, the leadership teams became comfortable with their new roles and began to make noteworthy progress toward achieving many of the operational goals. For example,

the percentage of appointments with missing charge data dropped substantially, from 8.59% in 2002 to 2.15% by mid-2005. Since 2005, improvements in that area have been sustained but with a slight drop-off in performance caused, in part, by increased clinic activity. Implementation of an electronic charge system now is under way. Waiting time also was reduced in two of the larger disease centers and one infusion unit. In addition, the entire ambulatory service collaborated to implement an online medical record, improve the reporting of laboratory results, and improve patient access on holidays, weekends, and evenings. All of the improvements were accomplished even though the clinic and infusion volume continued to increase at a rate of approximately 5% per year.

Today, four years after the new leadership structure was introduced, interdisciplinary governance, which had long been accepted by the Institute's CEO, COO, CMO, chief nurse, and other senior executives, is firmly in place at the disease center and floor levels. As a result, the process used to make decisions, define priorities, and plan and implement improvements has changed dramatically. Before the new model was implemented, efforts to change clinic processes and systems often were met with resistance by clinicians and staff in the disease centers. Under the new governance model, in which the RN and MD leaders are accountable for making operational decisions and achieving agreed-upon goals, change is accomplished more readily.

A qualitative evaluation of the model's impact that captured the perspectives of many of the Institute's leaders and staff highlights how the model has affected the work environment. Among the evaluation's findings was the observation that many staff believed that a culture shift occurred after the model's introduction and that a more effective work environment—one that promotes accountability, communication, respect, and collaboration—has been established.

Lessons Learned

Leaders at DFCI learned many lessons while developing and implementing the new governance model. Lessons that might be most helpful to those interested in changing governance structures at their institutions follow.

Lesson 1. Go slow to go fast: Taking time at the beginning of the change process—to articulate guiding principles, specify priorities for design and implementation, and obtain input from the Institute's faculty and staff—facilitated more rapid implementation of the new model and increased the likelihood of its acceptance by clinicians and other staff. People are more apt to support what they help create, which underpins not only the model but also the processes used to design and implement it. Although using a top-down change process may have been

faster in the short run, it would have run counter to the institution's philosophy and could have created resistance that would have derailed the change effort or made it more drawn out.

Lesson 2. Align group purpose, accountability, and membership: The design and implementation phases of a change process often require the involvement of two very different kinds of groups. Too often, a change effort fails because its purpose is not perceived to be compelling by those who will be affected or implementation is left to a group without the proper authority and accountability to shepherd it through.

To develop the new governance model, a diverse group representing a wide range of disciplines and roles was convened. Group members were asked to shape the model's design based on their firsthand knowledge of the organization and broad experience with clinical work. Involving such a group in the design phase was essential because it ensured that the rationale for change was compelling and that the model designed by the group would lend itself to successful implementation. In contrast, accountability for implementation was given to the leaders of the disease centers and the MCSC. Those individuals had the authority to effect the necessary changes and the ability to influence senior executives to provide the resources and support that were required.

Lesson 3. The importance of executive leadership: The executive team is responsible for creating a climate that inspires possibilities and fosters productive exchange. At DFCI, overall accountability for clinical operations and decisions related to strategic priorities reside with the chief nurse, CEO, COO, and CMO—a model that is particularly effective for a complex academic medical environment. The involvement of each member of the executive triad was essential to the successful implementation of the new governance model.

During the early stages of implementation, the executive team relied on the disease center leaders to encourage dialogue and keep staff informed about the progress of implementation. Over time, they realized that expectation was unrealistic because the disease center leaders were just beginning to understand the implications of the new model and had difficulty representing the progress of implementation. As the executive team became involved more actively, they began to appreciate the important role they played in responding to the fear and resistance that inevitably occurs when a new management structure is introduced.

Wise leaders always manage expectations. During the implementation of the new governance model at DFCI, leaders quickly learned that if the implementation of some aspect of the model was to be delayed, they had to thoroughly communicate the information and reasons behind it to avoid disappointment

and, possibly, cynicism by those eager to see change. By maintaining an ongoing dialogue with those who have a vested interest in preserving the status quo and engaging them in the change process, executive leaders can help staff appreciate how involving others benefits clinical operations, patient safety, patient and employee satisfaction, and the organization as a whole.

Lesson 4. Use data to drive decisions: Using data to drive decisions can help to defuse much of the emotion that may be attached to decision making and allows the use of benchmarks to gauge progress. The MCSC co-chairs realized substantial benefits from using a data-driven approach. By using data about operational processes and outcomes to formulate goals and evaluate the effects of various initiatives, the co-chairs kept the RN and MD leaders and staff focused on improving performance and gave each disease center the ability to assess the effectiveness of their improvement efforts.

Lesson 5. Be patient: Organizational change of the magnitude described herein takes time. Companies that have introduced self-directed work teams have found that teams often need several years to function independently; most healthcare organizations will find they are no different. Only with time can leaders in a new governance structure begin to appreciate the responsibilities associated with their roles and develop and refine the required skills. Over time, small successes build on one another and become the most effective argument for the model's continuation. The model has been accepted when staff at all levels view it simply as the way to do business and how patient- and family-centered care is ensured.

Author Contact: Patricia Reid Ponte, RN, DNSc, FAAN, can be reached at pat_reid_ponte@dfci.harvard.edu, with copy to editor at ONFEditor@ons.org.

References

Abrahm, J.L., Callahan, J., Rossetti, K., & Pierre, L. (1996). The impact of a hospice consultation team on the care of veterans with advanced cancer. *Journal of Pain and Symptom Management, 12*(1), 23–31.

August, D.A., Ehrlich, D., & Carpenter, L.C. (1995). Patient evaluation of care within a multidisciplinary breast care center. *Quality Management in Health Care, 3*(3), 1–15.

Baggs, J.G., Norton, S.A., Schmitt, M.H., & Sellers, C.R. (2004). The dying patient in the ICU: Role of the interdisciplinary team. *Critical Care Clinics, 20,* 525–540.

Blazer, K.R., MacDonald, D.J., Ricker, C., Sand, S., Uman, G.C., & Weitzel, J.N. (2005). Outcomes from intensive training in genetic cancer risk counseling for clinicians. *Genetics in Medicine, 7*(1), 40–47.

Chang, J.H., Vines, E., Bertsch, H., Fraker, D.L., Czerniecki, B.J., Rosato, E.F., et al. (2001). The impact of a multidisciplinary breast cancer center on recommendations for patient management: The University of Pennsylvania experience. *Cancer, 91,* 1231–1237.

Chang, S., Hursting, S.D., Perkins, S.N., Dores, G.M., & Weed, D.L. (2005). Adapting postdoctoral training to interdisciplinary science in the 21st century: The Cancer Prevention Fellowship Program at the National Cancer Institute. *Academic Medicine, 80,* 261–265.

Institute of Medicine. (2000). *To err is human: Building a safer health system.* Washington, DC: National Academies Press.

Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century.* Washington, DC: National Academies Press.

Katzenback, J.R., & Smith, D.K. (1993). *The wisdom of teams.* Boston: Harvard Business School Press.

Kouzes, J.M., & Posner, B.Z. (1995). Foster collaboration: Promoting cooperative goals and mutual trust. In *The leadership challenge* (pp. 151–179). San Francisco: Jossey-Bass.

Ponte, P.R., Conlin, G., Conway, J., Grant, S., Medeiros, C., Nies, J., et al. (2003). Making patient-centered care come alive: Achieving full integration of the patient's perspective. *Journal of Nursing Administration, 33*(2), 82–90.

Porter-O'Grady, T., Hawkins, M.A., & Parker, M.L. (1997). Whole-systems shared governance: A model for integrated health care systems. In T. Porter-O'Grady, M.A. Hawkins, & M.L. Parker (Eds.), *Whole-systems shared governance: Architecture for integration* (pp. 35–68). Gaithersburg, MD: Aspen.

Siegrist, B.C. (2004). Partnering with public health: A model for baccalaureate nursing education. *Family and Community Health, 27,* 316–325.