Model for a Merger: NewYork-Presbyterian's Use of Service Lines to Bring Two Academic Medical Centers Together

Steven J. Corwin, MD, Mary Reich Cooper, MD, JD, Joan M. Leiman, PhD, Dina E. Stein, MA, Herbert Pardes, MD, and Michael A. Berman, MD

Abstract

NewYork-Presbyterian Hospital is the result of the 1998 merger of two large New York City academic medical centers, the former New York and Presbyterian Hospitals, and is affiliated with two independent medical schools, the Columbia University College of Physicians and Surgeons and the Joan and Sanford J. Weill Medical College of Cornell University. At the time of the merger, the hospital faced a number of significant challenges, chief among them the clinical integration of the two medical centers. Size, separate medical schools, geography, and different histories and cultures all presented barriers to collaboration. To bring about the needed clinical alignment, the hospital turned to service lines as a way to realize the benefits of clinical integration without forcing the consolidation of departments. In this article, members of the hospital's senior management review the thinking behind the hospital's use of the service lines, their development and operation, and the significant, positive effects they have had on volume, clinical quality, clinical efficiency, best practices, and revenue management. They discuss how the service lines were used to bring together the two clinical cultures, the impact they have had on the way the hospital is operated and managed, and why service lines have worked at NewYork-Presbyterian in contrast to other hospitals that tried and abandoned them. Service lines play an increasingly central role in the hospital's clinical and business strategies, and are being extended into the NewYork-Presbyterian health care system.

On January 1, 1998, the New York and Presbyterian Hospitals officially began operating as NewYork-Presbyterian Hospital. With 2,278 beds, over 100,000 discharges, and operating revenues close to $2 billion, NewYork-Presbyterian is the largest hospital and academic medical center in the New York metropolitan region and one of the largest single, not-for-profit hospitals in the country. It is also the hub of the NewYork-Presbyterian health care system, a regional network of 52 hospitals and nursing homes in the tristate metropolitan area.

NewYork-Presbyterian is affiliated with two medical schools: The College of Physicians and Surgeons of Columbia University and the Joan and Sanford I. Weill Medical College of Cornell University. It operates five separate inpatient facilities: the Milstein Hospital, the Children's Hospital of NewYork-Presbyterian, the Allen Pavilion, the New York Weill Cornell Hospital, and the psychiatric campus of New York Weill Cornell in Westchester County. The clinical staff consists of 5,500 physicians including more than 1,200 residents and 250 fellows in 120 fully accredited training programs. In fiscal year 2002, the hospital provided 12,500 births, 1.1 million ambulatory visits, 179,000 emergency room visits, and more than $69 million a year in uncompensated care.

The goals of the merger were to increase quality, improve access, and demonstrate fiscal stability.[1] The experience to date suggests these goals are being met. In 2002, total discharges were 14% higher than they were the year before the merger. Unlike most of the academic centers in New York City, the hospital ended the year with a small financial surplus. NewYork-Presbyterian is listed in the *U.S. News & World Report's* Honor Roll of Hospitals (2001, 2002, and 2003), and has more doctors listed in Castle Connelly's *America's Best Doctors* (2001, 2002, and 2003) than does any other single institution in the country.

In this article, we look at how service lines were used by senior management to align the two hospitals clinically.

The Merger

Like other mergers in the 1990s, NewYork-Presbyterian's was driven by concern over the deteriorating financial environment for teaching hospitals. Costs for personnel, supplies, drugs and technology were rising faster than reimbursement rates from managed care plans, Medicare, and Medicaid.[2] The federal Balanced Budget Act of 1997 imposed large reductions in Medicare payments to hospitals, removing millions of dollars in financial support for residents.[3] Health care experts were predicting more losses for hospitals from the growth of managed care, ambulatory surgery, and new technologies that were shifting care from inpatient to outpatient settings.[4] Looking for successful business strategies, several of the city's hospitals began merger discussions, including New York and Presbyterian.[5] Started in 1995, the New York and Presbyterian talks became serious in 1996, and by 1997 the two boards had agreed to merge.[1]

Of the notable academic medical center mergers that took place during this period, NewYork-Presbyterian is one of the few to have survived.[5] It is also one of very few to have merged assets as well as operations. The fact that it was a full asset merger bound the two institutions tightly together and made divorce difficult. It gave the board and senior leadership of the merged entity strong incentives to work through their early problems.

The two boards also decided to incorporate as one institution and to apply for national accreditation as one

rather than two hospitals. This decision committed them to the rapid development of uniform policies and procedures. To facilitate this process, the boards began operating the two hospitals under unified management in 1997 before the January 1, 1998 effective date of the merger.

Challenges of Clinical Integration

The decision to merge was justified in large measure by improvements in clinical quality and significant financial savings projected to result from integrating programs. Formidable challenges, however, faced the merged hospital. Geography was one. New York Hospital is located on the eastern edge of Manhattan near the East River. Presbyterian is 100 blocks north and west, near the Hudson River. It was not easy to bring physicians and administrators together for meetings.

The dual medical school affiliation offered another challenge. The two schools had no intention of merging and independently negotiated the continuation of their exclusive affiliations with the former hospitals. Columbia physicians at Presbyterian could work at the New York Weill Cornell center only if they received faculty appointments from Weill Cornell and vice versa. This meant that the merged hospital had to work with two separate and independent medical faculties and physician practice organizations.

History and tradition comprised a third challenge. Although both hospitals were academic medical centers that valued excellence and had experienced financial difficulties, the similarities ended there. Columbia's faculty is larger than Weill Cornell's, and a larger percentage is full-time. The Columbia physicians spent much of the decade before the merger struggling to maintain their academic programs, private practices and community commitments in the face of serious financial distress and administrative instability at Presbyterian. The financial situation had just begun to stabilize when the board decided on the merger with New York Hospital, a decision that reignited the physicians' anxieties about the hospital's future and their own. New York Hospital had also weathered a serious financial crisis, but its administration had been stable and the situation had improved sufficiently to support the building of a new inpatient pavilion that opened in 1997. Weill Cornell physicians were concerned about the impact of a merger with a hospital they considered financially problematic.

Both faculties shared a desire to work in a strong, successful academic hospital that would support research, education, and quality patient care, but each center feared that the merger would erode its identity, weaken its programs, or favor one center over the other. Two early experiences brought home the difficulties the hospital faced in trying to bring about clinical integration. In 1997, looking toward accreditation, the boards of the still separate hospitals established one medical board and charged it to write one set of medical by-laws for the merged hospital. The process quickly became contentious, as physicians at both centers displayed reluctance to deal with differences in their policies and bylaws.

Senior management responded by establishing an executive committee of the new medical board at each center, giving each faculty a forum in which they could deal separately with the issues before coming together to address them. Four recognized physician leaders—two at each center—were appointed to lead the executive committees, which were required to operate under common guidelines. They had to meet at least monthly and follow identical agendas. The clinical chiefs were required to attend, and neither center could adopt a policy without the concurrence of the other. The outcome had to be one set of agreed-upon medical bylaws, clinical policies, and standards. The hospital also appointed a single chief medical officer, and established a single medical staff office, to lead and support the physicians at both centers. This configuration became the governing structure for the medical staff, and it is still working well. The experience senior management gained in this process was subsequently used in designing the governance of the service lines.

A second early effort at integration across the hospitals was also instructive. Early in 1998, vacancies occurred in the leadership of the cardiac catheterization laboratories at both centers. Senior management of the hospital saw an opportunity for integration and moved to appoint a single director. There was, however, a strong, negative response from the cardiologists and cardiac surgeons at both centers, who saw in the proposed appointment a first step towards the erosion of their separate identities. The hospital ultimately drew back from the single director, while the cardiac physicians, for their part, agreed to a set of common protocols and quality measures to be used by both programs. These discussions led directly to the decision to form a cardiac disease service line.

By 1999 it was clear that forcing clinical consolidations would be contentious and counterproductive, and would lead to the defection of key physicians.[1] While senior management continued to actively encourage program consolidations that had the support of the physicians, they turned increasingly to service lines to bring about the clinical alignment of the two medical centers.

Service Lines

Theory

Service lines were widely adopted by hospitals across the country in the 1980s. Modeled after product lines in industry, they were used to help overcome the organizational "silos" of traditional hospital administration that get in the way of the coordination required to deliver good patient care.[6,7] Many hospitals tried service lines in the 1980s and 1990s but subsequently abandoned them because of added administrative costs.[6,p.263] More recently, service lines have been taken up by multiinstitutional health care systems to help establish common clinical quality standards and best practices across a number of hospitals.[6,p.261] NewYork-Presbyterian defines a service line as the organization, management, and delivery of a comprehensive continuum of services around a major disease entity, age group, or patient population. The "product" of the service line is high-quality, cost-effective, safe, appropriate, and responsive patient care.

Physicians in most hospitals are organized by medical and surgical specialty into academic departments. The departments work well with respect to professional development, research, and education, but less well with respect to patient care, which increasingly requires

coordination across a number of specialties. Because medicine offers numerous options for the diagnosis and management of a disease or condition, academically focused departments find it difficult to bridge specialties in order to move patients efficiently and promptly through needed tests and treatments.[5, p. 427]

Heart disease, for example, can comprise many different conditions, and, depending on its form and severity, can be addressed by a number of different and sometimes competing specialties, among them cardiology, interventional cardiology, cardiac electrophysiology, cardiothoracic surgery, and cardiac rehabilitation. Patients and their referring physicians can incur considerable time and effort cycling through the specialties in order to settle on a diagnosis and an optimal treatment. Bringing the specialties together in a service line provides a framework that makes it possible for doctors, patients, and third-party payers to explore treatment options in a timely, efficient, and cost-effective manner, and to give patients care that is appropriate, coordinated, and interdisciplinary. Service lines can also be used to bring physicians and operating departments together so that the clinical and nonclinical components of care can be similarly coordinated. For example, the cardiac service line coordinates everything to do with cardiac patients, ranging from access to physicians and admission to the hospital through the quality of the clinical programs and the hospital's accommodations.

In turning to the service line model, senior management at NewYork-Presbyterian were looking to provide the best-quality care and establish common standards and best practices across the hospital's two medical centers without having to consolidate departments. To be successful, the service lines had to be shaped to fit the hospital's unique structure and varied needs. Drawing on its earlier experiences, senior management drew up four principles. Service lines had to be:

- *Flexible*: a single template would not work.
- *Inclusive*: governance of the service lines would bring as many voices to the table—including those of the two medical schools—as were relevant to the delivery of a full continuum of care.
- *Physician-led*: physicians themselves would determine the leadership; if necessary, there could be more than a single leader of a line.
- *Transparent*: service lines would not be used to force the consolidation or integration of clinical departments or programs—within a service line there could be all, some, or no integrated programs—and data would be freely shared by the hospital with the physicians and the schools and become the basis of strategic and business planning and performance and quality review.

Senior management envisioned the process working as follows: the hospital would give priority in capital investment to service line projects, giving the physicians at the two centers an incentive to work with the service lines and adopt common goals. In turn, the physicians would commit to specific, measured improvements in quality and medical management. They would also commit to partnering with the leaders of hospital operations to enhance customer service and with the leaders of hospital finance to improve revenue realization. The result would be win-win. The physicians and the medical schools would benefit from the hospital's capital investments in facilities, programs and recruitments, while the hospital in turn would benefit from improvements made by the service lines in clinical quality, service to patients, clinical and financial efficiencies, and volume and revenue growth.

Not all departments, divisions, or services would or could be included in a service line. Those that were not would continue to submit business plans and to receive funding as appropriate in accordance with the hospital's strategic and business goals. It was understood, however, that priority would be given to the service lines.

Criteria for service-line selection

Clinical areas to be set up as service lines were selected on the basis of contribution to the mission of the hospital and medical schools, market and strategic importance, significant impact on revenue and activity, and appropriateness as a set of clinically related services across the continuum of care, from prevention and wellness through diagnosis, treatment, and rehabilitation services.

The first six service lines established by the hospital in 1999 were cardiac disease, oncology (cancer), neurosciences, behavioral medicine, transplant services, and children's health. Women's health, geriatrics and preventive medicine, digestive diseases, vascular diseases, and prevention/wellness followed in 2000 and 2001. As of this month (June 2003) there are 11 service lines. A 12th service line, general medicine, is scheduled to get under way shortly.

The process was assisted by an appropriation of transition capital approved by the board in 1998 immediately after the merger. The decision was subsequently made to invest these funds, totaling $60 million over three years, primarily through the service lines. This gave the service lines important credibility and allowed physicians to see early results from their participation. At the same time, the investments contributed significantly to enhancing the clinical strengths of the merged hospital.

Governance and administration

Service lines at NewYork-Presbyterian are treated as small business units exercising responsibility for their "products." They report to the hospital's chief medical officer but are also administratively linked to the hospital's three chief operating officers and chief financial officer. Each service line is governed by an executive council chaired by physicians. The councils consist of an equal number of doctors from each center who decide the leadership. Some lines are headed by one physician from each center, some by two from each center—generally the medical and surgical chairs. The executive councils meet bimonthly. They are responsible for clinical and financial performance, quality measurement, business and investment planning, customer service, marketing, and educational and research initiatives.

The physicians who chair the councils also chair "clusters" that manage the operational delivery of care to the service lines' patients. There is a cluster for each service line at each center; the cluster brings physicians together with the center's chief operating officer and

directors of nursing, support services, pharmacy, medical records, clinical practice evaluation, and customer service. The clusters meet monthly and the agendas, set by the physicians, deal with a range of issues, from length of stay and medical management to the recruitment and retention of nurses and the quality of accommodations. The clusters are provided with relevant information to use in assessing and improving performance, including patient satisfaction data and national and local performance data for service lines in comparable hospitals.

Staffing for the service lines is lean. Each line has an assigned administrative director, who shares responsibility with the physician leaders for strategic planning, capital investment, recruitment, quality, and medical management. There are currently five administrative directors for the 11 existing service lines and one manager from finance who is assigned almost full-time to the support of the lines. The lines are also supported by staff from finance, operations, planning, clinical practice evaluation, and marketing who are assigned on a part-time basis. The administrative directors report to the chief medical officer and their executive councils, but they also have dotted-line relationships with the chief operating officers and finance. This matrixed administrative structure facilitates direct and rapid communication between the physicians leading the service lines and the hospital personnel responsible for operations and support. The elimination of management layers makes it easier for physicians and administrators to bring issues quickly to the attention of senior management. The inclusion within the service line of operations, finance and other hospital services facilitates communication across internal organizational "silos" and aids smooth and rapid execution of plans and projects. This efficient staffing has helped the hospital operate the service lines without incurring significantly increased administrative cost.

The medical schools and the service lines

The senior clinical deans and the leaders of the faculty physician organizations of the two schools participate in the executive councils. Because physician practice is organized under the medical schools, their involvement means that the service lines can work with the full continuum of care, including physician practice.

Information transparency

Having readily available, valid, and reliable clinical data is a major focus in the operation of service lines. Performance reports, operational databases, profit and loss statements, and benchmarking reports provide physicians with performance, quality, financial, and market information. The physicians and the medical schools have begun to share their practice data with the service lines. The focus on producing timely, accurate information has changed the nature of many discussions from whether a problem exists to why it exists and what to do about it. As a result, there is less contention around making improvements.

Strategic and business plans

Each service line is required to carry out a strategic assessment that looks at program quality, financial performance, market share, and patient referral sources. The assessment builds a common base of understanding of the strengths, weaknesses, and needs of the service line's programs at both centers. Such assessments often make clear that the combined strengths of the two centers offer clinical and recruitment opportunities that would not be available to the one center alone. The end result is a set of goals and priorities agreed to by physicians from both centers that serves as a road map that senior management and physicians can follow together to grow and strengthen the line's programs.

The adoption of a strategic plan is closely followed by the preparation of a five-year business plan that assesses the feasibility of the benefits and financial returns that are projected to flow from the recommended investments. Final decisions on capital investments are made by senior management, subject to approval by the hospital's board. These decisions are based on a combination of mission-critical and business-critical considerations with an effort to balance investments at the two medical centers as evenly as possible. Because they are based on data that everyone has reviewed, the decisions have generally been accepted by the physicians, including those whose priorities are not immediately addressed.

Case example: the cardiac service line

The cardiac line was the first to be developed. It encompasses the departments of adult cardiology and cardiac surgery at both centers, and is led by the four chiefs of these departments. The cardiac line is one of the hospital's largest. It has 283 dedicated cardiac inpatient beds, and intensive care units at both centers and accounts for 12,200 discharges and 20% of the hospital's revenues. Its bottom line is positive.

When the cardiac line was formed, the leadership adopted the following principles: comprehensive cardiac programs would operate at both centers; decisions would be jointly made by doctors from both centers; physicians from both centers would collaborate on technical innovations; and the centers would learn from each other, mirroring best practices where appropriate.

The strategic assessment undertaken as the service line's first effort revealed that both centers were losing market share to local hospitals that were starting to offer complex cardiac procedures. The assessment also showed that lengths of stay for certain groups of cardiac patients were quite different between the centers. The executive council drew up a strategic plan and a five-year business plan to address these issues. They called for facility improvements, recruitment of physicians in areas of projected growth, improvements in bed availability, development of performance benchmarks, growth in revenues from treated patients, and better marketing to enhance name recognition.

During the first three years, the service line recruited 10 new physicians (including national leaders), hired special bed coordinators to facilitate admissions, installed a new call center, and introduced subsidized parking for the service line's patients. Common clinical protocols were put in place at both centers, and performance benchmarks were developed that are routinely reviewed and compared against the performance of cardiac programs in peer hospitals. Doctors even began to accompany housekeepers on weekly housekeeping rounds, resulting in cleaner cardiac patient care units, higher patient

satisfaction, and improved morale among housekeeping staff. A professional newsletter was designed to communicate with cardiologists and cardiac surgeons around the country and a web site was developed for the interested public.

By 2002 the service line had halted its decline in market share and produced 3,500 incremental cardiac discharges (1998–2002) while reducing the number of chronic patients in cardiothoracic intensive care units and the percent of cancelled surgeries due to lack of beds. By aligning clinical practice at the two centers, overall length of stay was shortened by 30% (1998–2002). An award-winning emergency room protocol for treating advanced coronary syndrome was developed and implemented that significantly reduced the misdiagnosis rate for acute myocardial infarction in the emergency room from 4.8% to 0.4% (December 2000 through June 2001) and substantially shortened the time from presentation to treatment from 120 minutes to 90 minutes in the same period. In 2001, through better documentation and medical record coding, the line produced an additional $1.3 million in revenues for the hospital.

Service Line Outcomes

Service lines currently account for 60% of NewYork-Presbyterian's discharges and 70% of its revenues. They played a major role in increasing the hospital's discharges from approximately 86,000 before then merger to over 100,000 in 2002, an increase of over 16%, and helped reduce the hospital's average length of stay from 7.5 days in 1998 to 6.8 days in 2002, a decrease of 10%, while the severity of cases increased 2% and the costs per discharge decreased. The first group of service lines all increased their market share in the New York metropolitan area and realized positive returns on investments within two years. By exchanging best clinical practices between the centers, the service lines have achieved measurable results on a variety of efficiency measures, and by exploiting the size of the patient base of the merged hospital, physicians at both centers have been able to compete more successfully for clinical trials and research grants in a number of areas, including oncology, cardiology, and minimal-access surgery.

Lessons Learned

NewYork-Presbyterian developed the service lines as change agents to bring about a common clinical strategy for the merged hospital. The strategy allowed the hospital to realize many of the benefits of clinical integration while avoiding the problems of forced consolidations. They provided vehicles through which hospital management, physicians, and the two medical schools could work toward common ends. One senior hospital executive described the process as follows: "We bent, but we didn't break either the departmental or the traditional organization of the hospital."

The approach that NewYork-Presbyterian took to the service lines was evolutionary rather than revolutionary, flexible rather than formulaic. A major factor in their initial success was the decision to direct the hospital's capital investment dollars to those service lines that succeeded in developing a single, integrated strategic and business plan for both centers that met the hospital's criteria for return on investment and that were also willing to commit to targets for the improvement of clinical outcomes, quality measures, and efficiencies. A second factor was the avoidance of a "one size fits all" approach. For example, when it became clear that the volume of activity related to vascular disease was substantial enough for vascular disease to merit its own service line, it was separated from the cardiac line. A third factor was the hospital's commitment to transparency. Substantial time and effort were devoted to making data valid and reliable so that the physicians had confidence in it and were comfortable using it. Once a reasonable level of comfort was achieved, the data were shared—poor as well as good performance—and used to measure and improve results. Having accurate data is a powerful motivator as well as a useful and necessary guide to improvement. NewYork-Presbyterian still has far to go to make itself the data-driven organization it aspires to be, but the principle was established early with the service lines.

Senior management believes that service lines have worked at NewYork-Presbyterian in contrast to other hospitals where they were tried and abandoned because of the absence of a significant overlay of management with its associated redundancies, inefficiencies, and cost. At the same time, the matrixed organization has its own costs and challenges. The frequent meetings of the executive councils and operating clusters make the service lines expensive in terms of the time required of physician leaders and hospital management. Significant commitment and skillful leadership and teamwork are required of senior management. The leadership that conceived of and oversaw the development of the service lines at the hospital is still in place. A question for the future is the degree to which the lines are sufficiently institutionalized to persist through the changes in organizational leadership that will eventually occur.

Next Steps

Although service lines constitute the primary strategy used by the hospital to

Table 1

Composition of the 11 Service Lines at New York-Presbyterian Hospital, 2003

Service line	Academic department
Neurosciences	Neurology, neurosurgery, interventional neuroradiology, rehabilitation medicine
Oncology	Medicine surgery, pediatrics, urology, radiation oncology
Behavioral health	Psychiatry
Children's health	Pediatrics and pediatric surgical specialties
Cardiac services	Cardiology, cardiothoracic surgery
Digestive diseases	Medicine, surgery
Preventative and corporate health	Medicine, radiology, surgery, gynecology, dermatology, urology
Geriatrics	Medicine
Women's health	Obstetrics and gynecology, medicine, radiology
Transplant	Medicine, surgery
Vascular	Surgery, interventional radiology, interventional cardiology

effectuate clinical alignment, they are not the only one. A number of clinical consolidations have taken place since the merger, including that of one department (rehabilitation medicine) and a number of divisions, notably but not exclusively in the surgical subspecialties. Plastic surgery, minimal access surgery, transplantation, vascular surgery, and pediatric cardiac surgery have all voluntarily come together as bicenter programs. Joint residencies have been established in otolaryngology, rehabilitation medicine, and, most recently, emergency medicine.

The hospital and schools will continue to integrate programs where integration promises benefits to both centers and the schools. At the same time, the service lines will continue to play their central roles in NewYork-Presbyterian's clinical and business strategy. Next steps for the lines include continuing to augment their role in improving clinical and service quality, embedding them more firmly into the organizational structure of the hospital, and moving them out into the NewYork-Presbyterian health care system. Improving the patient experience across the continuum of care will continue to lie at the heart of how the service lines operate.

One senior executive summed up service lines' importance by saying that "service lines are helping NewYork-Presbyterian forge a new organization where A plus B equals not AB, but C," C standing for the clinical and academic power of the integrated hospital, its medical school partners and its health care system.

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