Spectrum Medical Group

by
Chris Pope

"Even fools are sometimes right."
"No one is smart enough to be wrong all the time."
"Genius is 1% inspiration, 99% perspiration."

Winston Churchill, Ken Wilber, Thomas Edison

Introduction

The other chapters of this book focus on the contributions made by many physician leaders and clinically skilled medical staff to the excellent medical care provided at Maine Medical Center (MMC). This one describes how Spectrum Medical Group (Spectrum) formed, and how Spectrum worked with MMC's leaders to improve the quality of the medical care delivered.

Although the difficulty coordinating physicians is often described as 'herding cats', the medical staff will well remember the challenges of the 1990s and early 2000s, trying to focus the hospital on providing quality clinical care rather than on 'profits' as the major management goal. Administrators were guiding the hospital using primarily two financial metrics: cost and revenue. These financial metrics, rather than clinical quality measures, were directly linked to senior administrators' annual job performance. Thus incentives were not tightly aligned with investing resources in clinical care outcomes, patient safety or measured satisfaction of patients, nurses, physicians and other clinical staff. Most hospitals at the time did not focus on clinical quality. MMC was not exceptional in this and had not begun developing quality metrics or linking them to administrator compensation. Medical quality improvements in healthcare were relatively new concepts, with quality either being assumed or left to professional peer review processes distinct from administrators.

Lacking properly aligned incentives, hospital administrators can be forgiven for perhaps having the following perspective:

"If it wasn't for all these difficult doctors, nurses and patients,
MMC would be running quite smoothly"

This view might be less surprising if the reader realizes: (1) it is truly difficult to coordinate physicians to gain cost efficiencies[1], (2) MMC had recently faced a vote by the nursing staff to form a union and (3) caring for sick patients is not a part of most senior administrators' skillset. Since physicians, nurses and other clinicians provide the medical care, optimally the views of innovative clinicians and business leaders should be blended.

Prioritizing resource expenditures can often pit the views of physicians against those of hospital administrators.

When Spectrum was formed in 1996, those MMC Department Chairs who became members of Spectrum continued their important existing roles, but were now also a vital part of the effort to operationalize Spectrum's early vision:

"**Dedicated to excellence in the diagnosis, prevention and treatment of illness and the primary importance of the caring patient relationship**."

Spectrum's initial clinical specialties (Radiology, Anesthesiology and Pathology) provided almost all its clinical services linked to the hospital. Optimizing MMC's clinical infrastructure and being focused on clinical quality were therefore necessary steps in achieving this vision.

Most physicians were busy providing clinical services and caring for patients. All were engaged in CME (continuing medical education) but CBE (continuing business education) was not a routine part of their learning goals. Acquiring the knowledge necessary to form a new medical organization, as well as the systems[2] and quality practice[3] skills needed to implement necessary changes, were new challenges for physicians. The performance improvement and clinical quality literature[1, 3] was evolving rapidly and few physicians had much experience with these new ideas. The complexity[4, 5] and systems literature[2] were also making significant contributions to the delivery of cost-effective medical care.

Performance improvement is usually seen as vital and necessary, except when it applies to one personally. Resistance to imposed behavior change is felt by most people, even when aware that:

"Not all change leads to improvement,
but all improvement requires some change"

Institute for Healthcare Improvement

Today it is well accepted that organizations in the medical and healthcare business sectors should be guided by metrics that reflect both the quality of clinical services and the financial results.

The Spectrum story has two tightly woven threads:

First, the members of the three independent Portland physician groups that eventually formed Spectrum had to recognize that organizational change was needed. And they also needed to acquire the non-clinical business and leadership skills to create a more effective medical business organization. Some inspiration and a whole lot of perspiration was necessary to accomplish this.

Second, because Spectrum physicians would be working primarily inside MMC, it was always clear that Spectrum's success would hinge on redirecting how MMC administration funded clinical infrastructure and measured clinical quality. A critical objective was to have all MMC patients receive high quality treatment, thus medical care needed to be both optimized and standardized.

This chapter starts with a summary of the challenging three-specialty group merger process to form Spectrum and lists some important early lessons. When the merger was completed, Spectrum was the largest RAP group (Radiology, Anesthesiology, and Pathology) in the USA. Next, two anecdotes that illustrate the multifaceted approach used to enlarge MMC's focus on (1) clinical quality performance metrics and (2) improving clinical systems are described. 'Nudging' MMC to become a high performance medical organization required a broad effort from all the medical staff, nursing staff, and other clinicians, and also its business and community leaders.

If one could answer 'yes' to both the following questions, the critical goal of having all patients receive excellent medical care routinely, would be accomplished:

"Will you allow your family to be treated at MMC or any Spectrum service site without personally 'guiding' them through the medical system to ensure optimized care? Do all patients at our service sites get the same optimized care we want for our families?"

The Spectrum story includes similar efforts in the Bangor, Maine region. Here the focus is on efforts at MMC only, and summarizes Spectrum's formation and the initial 5 years. Many people have made large contributions and served Spectrum in pivotal roles in subsequent years until the present (2017), but telling the full history of Spectrum is not possible in this short chapter.

The Spectrum Story: Why, How & Now

Operationalizing the Shared Vision

WHY: Reasons Spectrum was formed

In the mid 1990's, healthcare was moving away from a physician-patient orientation of care to one that was greatly influenced by non-clinicians. Health systems, hospitals, managed-care companies, employers, and purchasers of health insurance were taking lead roles in shaping and influencing care delivery and financing. This market evolution threatened all physicians' autonomy and clinical practice styles.

Managed-care changes in the healthcare market were most noticeable in California but also in other parts of the USA such as Minneapolis. MMC's reaction was to form a Physician Hospital Organization (PHO). Many questions about PHOs were raised, such as equitable reimbursement. The hospital's share appeared non-negotiable and physicians

were left to squabble about how to divide the leftovers. MMC's medical staff was beginning the change from being largely independent, to being employed in hospital-owned practice plans where administrators had pivotal roles setting physician salaries, financial metrics and efficiency targets.

Spectrum's founding physicians strongly favored being part of an independent physician-directed organization. This allowed them to avoid the conflicts experienced when they were 'controlled by administrators' and to remain relevant in developing healthcare policy, financing and delivery systems in Maine. Direct contracting outside MMC's PHO necessitated developing new business skills and information systems, as the value of medical care was being measured in the new reimbursement models. Consolidation would make these infrastructure investments more affordable, including the cost of consultants and creating a highly skilled, shared administrative team.

New computerized information systems allowed faster clinical data collection. How to use information to modify and improve physician work patterns[1] was becoming better understood. The value of high performance teamwork[2] was clearer, and evidence-based decision-making with computer-enabled analysis almost a reality. In the early 1990s, communication networks using email and electronic image distribution were not yet available in Maine. A 'balanced scorecard' business system[6] was increasingly being used in other industries to measure the quality of their delivered products, customer and employee satisfaction and other important variables. These 'quality' indicators tended to be leading indicators in predicting business outcomes in contrast to the lagging indicators of expense and revenue.

The founding members realized that a more cohesive and forward thinking strategic approach was needed to cope with the changing Maine environment, which led to the discussions that eventually resulted in the formation of Spectrum.

HOW: Group Mergers forming Spectrum

On **September 30, 1996** Spectrum Medical Group was 'born' after many months of dedicated effort. Initially it consisted of three divisions: Radiology, Anesthesiology and Pathology (the 3 specialty physician groups decided to complete the Spectrum merger before looking to include other specialty physician groups). MMC and Brighton Medical Center had merged in 1995, allowing the Brighton radiologists and anesthesiologists to join the Radiology and Anesthesiology groups working at MMC.

The initial Spectrum merger resulted from a series of interim steps: in **April 1996**, the Portland Radiology group (30 members, which included 5 radiation oncologists) merged with the Bangor Radiology group (16 members) and in **June 1996**, the Portland Anesthesiology group (20 members) merged with the Bangor Anesthesiology group (18 members). These two single specialty mergers of Radiology and Anesthesiology were the prelude to the Spectrum merger (when Pathology was added) in **September 1996**. Each of

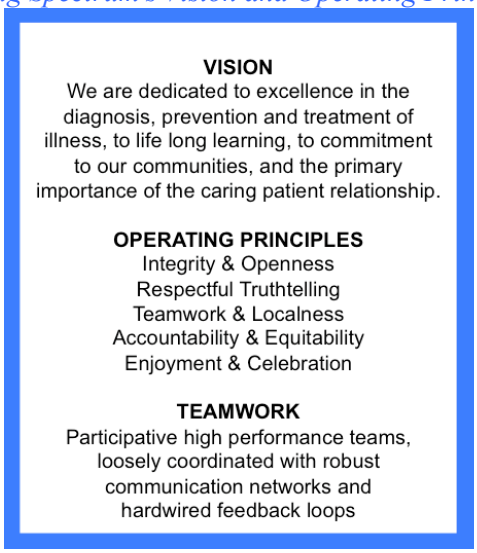
the new Radiology and Anesthesiology divisions thus included the independent medical groups from Bangor and Portland (the Radiology division also had a 5-member group from Brunswick) while the Pathology division was the 6-member group in Portland.

At that time Spectrum included 90 physicians: 38 anesthesiologists, 6 pathologists, 41 radiologists and 5 radiation oncologists. By **early 1998**, Spectrum included 114 physicians: 54 anesthesiologists 11 pathologists, 43 radiologists and 6 radiation oncologists.

HOW: Spectrum's Vision, People and Principles

The Vision to become a single fully integrated physician-directed organization was accepted by the leaders of the founding groups in the summer of 1996. The existing documents of the founding corporations were integrated to create Spectrum's Vision, Operating Principles and other guiding documents *(Fig #1)*. A number of workgroups did the countless hours of important work to establish the founding legal documents. These included the new shareholder agreement, the retirement and benefit policies, and the additional legal steps to avoid anti-trust obstacles forming a Professional Association (PA). Important legal advice was obtained and discussions with the state assistant-attorney general occurred prior to finalizing the Spectrum merger. Forming as a PA, Spectrum could function as a fully integrated entity, allowing all business initiatives to be shared without legal concerns. An analysis of the billing practices (Anesthesiology had billing employees while Radiology and Pathology contracted with outside agencies) was completed to enable billing to operate smoothly after the merger.

Figure #1: Vision, Operating Principles and Decentralized Teams
The existing documents of the founding corporations were integrated, creating Spectrum's Vision and Operating Principles.



The Administrative leaders: Mary Pinto (Anesthesiology), Peter McKenney (Radiology), Dick McArdle (Pathology) and legal consultants (each practice's attorney, an antitrust attorney and a merger specialist) prepared options for the physician leaders to consider. Many late night meetings after long clinical days, hours of travel to enable face-to-face meetings and meticulous document reviews were needed. The total physician after-hour contribution was never inventoried, but the legal fees totaled about $70,000. This included expenses for the two initial mergers (Anesthesiology N & S and Radiology N & S). Howard Yates, who joined Spectrum as its first Chief Executive, provided a crucial corporate-wide perspective.

The Governance: The initial Spectrum Board of Directors (BOD) consisted of 12 members elected by the shareholders with the BOD electing the officers. Each of 5 subdivisions elected 2 members from within their subdivisions (a total of 10 BOD members) with an additional 2 'at large' members being elected by the entire group of shareholders resulting in the 12 member BOD. Seven of the elected BOD members were members of MMC's Medical Staff. The existing operational processes were refined, having the BOD focus on the corporate-wide view, including both an internal and external perspective. A Divisional Advisory Committee (DAC) governed the corporate-wide operations of each of the 3 specialty divisions. The 3 elected VPs (previously each the President of their prior corporations) provided a specialty leadership role. In Portland, the 3 MMC Department Chairs continued their focus on managing their MMC clinical departments, while communicating Spectrum's views to MMC's administration.

The Founding Board Members: Michael Jones*(VP) & Tim Hayes (Pathology division); Katherine Pope (VP) & Ken Raessler* (Anesthesiology south subdivision); Chris Pope & Roger Pezzuti* (Radiology south subdivision); John Frankland & Gregg Farrell (Anesthesiology north subdivision); John Long (VP) & Michael Pancoe (Radiology north subdivision); Doug Cowan (north) & John Darby (south) at-large members. Chris Pope was elected as the inaugural Spectrum President, John Frankland the executive-VP, and the divisional VPs are noted above. Those marked with * were already serving as MMC Department Chairs.

HOW: Spectrum's Early Focus

In the early phases following the merger, Spectrum focused on six key areas guided in part by studies identifying important predictors of corporate longevity[7] *(Fig#2).*

Figure #2: Predictors of Corporate Longevity
Alignment of predictors with the key focus areas is noted

Predictors of Corporate Longevity	Key Focus Areas
#1) ***Cohesion and identity***: *aspects of a company's innate ability to build a community and a persona for itself*	(i), (iii), (iv), (v)
#2) ***Sensitivity to the environment***: *a company's ability to learn and adapt to changing market place demands*	(i), (ii), (iii), (iv), (v), (vi)
#3) ***Tolerance and decentralization***: *Tolerance to new ideas, the ability to build constructive relationships with other entities & within itself, valuing people not assets and a loosening of steering & control*	(i), (ii), (iii), (iv), (v), (vi)
#4) ***Conservatism in financing***: *defines the ability to govern its own growth and evolution effectively, which is a critical corporate attribute*	(ii), (iv), (v), (vi)

These six key focus areas included:

(i) Build good business relationships with other physicians, hospitals and between physicians within Spectrum
Spectrum contacted and made presentations to all major (and any other interested) physician groups to explain the vision and guiding principles and to alleviate fears that a monopolistic or market power corporate behavior was planned *(Fig #3).* Spectrum focused on treating each member fairly, aligning incentives to accomplish the vision and preserving advantages of local decision-making as much as possible.

Figure #3: Introducing Spectrum

An extract from information provided to local medical groups, hospitals and other interested parties after Spectrum formed in September 1996

SPECTRUM MEDICAL GROUP

The evolving Maine healthcare market provides an excellent opportunity for a well organized integrated physician-led organization to provide comprehensive medical services that best meet the needs of its customers: patients, employers, insurers, other physicians, managed care organizations and health systems. Spectrum Medical Group will be a multi-disciplinary physician group, representing all specialties (including primary care) and can form the backbone of the emerging integrated delivery systems. To date, many physicians have been drawn into hospital created and controlled organizations mainly due to the lack of a reasonable physician-driven alternative.

Spectrum will develop a corporate infrastructure designed to handle the clinical, business and operational functions that can be consolidated efficiently. Divisional members of Spectrum will enjoy the best of both worlds – the ability to benefit from the economies of scale inherent in a larger, more centralized organization, while maintaining divisional autonomy as appropriate to address the specific needs of each division. Each specialty group will retain its identity as a division of Spectrum. Divisional representation on the Corporate Board of Directors of Spectrum will ensure that divisional issues and needs will be well represented.

Spectrum will provide comprehensive services to customers within its market, including:

- **Direct, risk-based contracting with insurers and managed care organizations**
- **A range of high quality, reasonably priced medical services to patients**
- **Comprehensive clinical support services to patients and institutions:** *(Quality Management, Outcomes Measurement, Utilization Review, Practice Guidelines, and Credentialing)*
- **Practice Management services to both divisional members and prospective member practices include:** *(Corporate Planning and Development, Contracting, Finance, Marketing, Corporate operations, Information Systems Management, Human Resources Management, Insured and Uninsured Benefits Administration, Billing and Accounts Receivable Management, Practice Management Consulting)*

(ii) Strengthen Spectrum's contracting abilities

At the time, capitated contracting and the resources and knowledge to implement such contracts were in the early stages of development in Maine. Spectrum worked closely with insurance plans to develop a unified Spectrum option. This allowed the group to benefit from its broad market presence, and receive fair compensation for the high quality clinical services it continued to improve. Insurance companies recognized the advantages of having Spectrum in an advisory capacity while they developed their own capability to manage both the quality and service utilization of other similar specialty physician groups in Maine.

(iii) Expand Spectrum by mergers with other groups

Although there were many discussions with other physician groups after the September merger, none joined Spectrum in the first 5 years. Many leading physician practices in Portland and Bangor (orthopedic, surgical, emergency room, oncology) were approached. The expected managed care and capitated market evolution did not materialize immedi-

ately in Maine so other groups were reluctant to form a fully integrated multi-specialty group. Thus Spectrum initially functioned as a RAP group, which resulted in an easier integration process since the 3 founding groups had similar characteristics. They all had: a strong desire to remain a physician-directed organization, primarily hospital-based practices, largely solved internal compensation conflicts, similar governance structures and benefit plans. Since all were procedure-based, their billing practices were well understood.

(iv) Actualize the benefits of the initial Spectrum merger

Many of the anticipated cost efficiencies and 'economies of scale' were realized. Sharing strategic market information, extending and sharing existing infrastructure (such as business and email systems, contracting information and clinical quality support processes) enabled the 'economies of scale' cost-reduction. The Radiology email system already integrated into the MMC system was extended to all of Spectrum to allow essential information to be shared with reduced cost. Relationships with MMC were on a different footing due to coordinated contract conversations. Spectrum clinicians and leaders acted as liaisons with other hospitals for Maine Health (MMC's 'parent') services and leveraged the existing relationships in all the divisions. As Maine Health continued to grow, Spectrum benefitted from Maine Health's outreach gaining some contracting opportunities.

(v) Build infrastructure together while optimizing the hospital systems and performance improvement efforts

Shared process and clinical information systems included the email system mentioned above. The following are other examples of shared improvements: the governance decision structure, strategic planning, contracting analysis, clinical quality information analysis, compliance programs, HR policies (including a conduct policy), pension investment oversight, analysis of shareholder benefits such as health insurance options, and purchasing discounts (e.g. PCs). The new highly skilled administrative team supported all the Spectrum members. Improving hospital infrastructure and clinical performance is discussed later in this chapter and also detailed in the other clinical department chapters of this book.

(vi) Develop a new value-added strategy

The key goals were to be market leaders for the three clinical services and provide uniformly high quality clinical services at all Spectrum sites. Spectrum members were already involved in many quality initiatives in hospitals and other organizations in Maine. Spectrum's view of quality could be expressed as:

"Walk the talk. Quality is a verb not an adjective or noun"

New products included collecting clinical data to profile the utilization of clinical services. Spectrum contracted with an insurance company to collect and analyze data to optimize image-ordering behavior in their physician panel. Clinical quality anesthesiology

systems were used to detect outlier clinical processes and modify clinician performance. Physicians who played key roles included certain Spectrum BOD members, while Craig Curry (Anesthesia division) and Tim Hayes (Pathology division) also played pivotal roles. From the start, Rebecca Murray was a vital member of Spectrum's quality improvement efforts. Spectrum's quality data often allowed MMC to satisfy their hospital certification expectations. The data driven anesthesiology quality management system called FIDES was further marketed and became an independent product with national clients. Many Spectrum members became part owners of an imaging company (Insight Premier Health) that delivered outpatient MRI imaging at a reduced cost. A mobile PET-CT business (Maine Molecular Imaging) was started as a joint venture with Maine Health, with MMC joining the partnership in later years. In 2017 the 2 companies provide PET-CT, MRI and CT services at imaging centers and with its mobile scanners primarily in Maine.

HOW: Early Lessons that Spectrum Learned

In the initial years following the merger, a number of key lessons were learned:

(i) Physicians feared the loss of autonomy in a larger group

Governance and decision-making processes consume a vast amount of energy and can create many conflicts. Physicians are trained to form opinions and are often accustomed to being the 'expert' in the room. Successful groups work to overcome these hurdles and become high performance teams working towards common goals. Redirecting attention and energy away from physician compensation and benefits toward a focus on developing measurable quality and value-based clinical services is sometimes necessary. Limiting 'negative' energy and avoiding cannibalizing the organization from within are key milestones on a path to success, which of course is always 'under construction'.

(ii) Shareholders expected Spectrum to quickly achieve the merger benefits

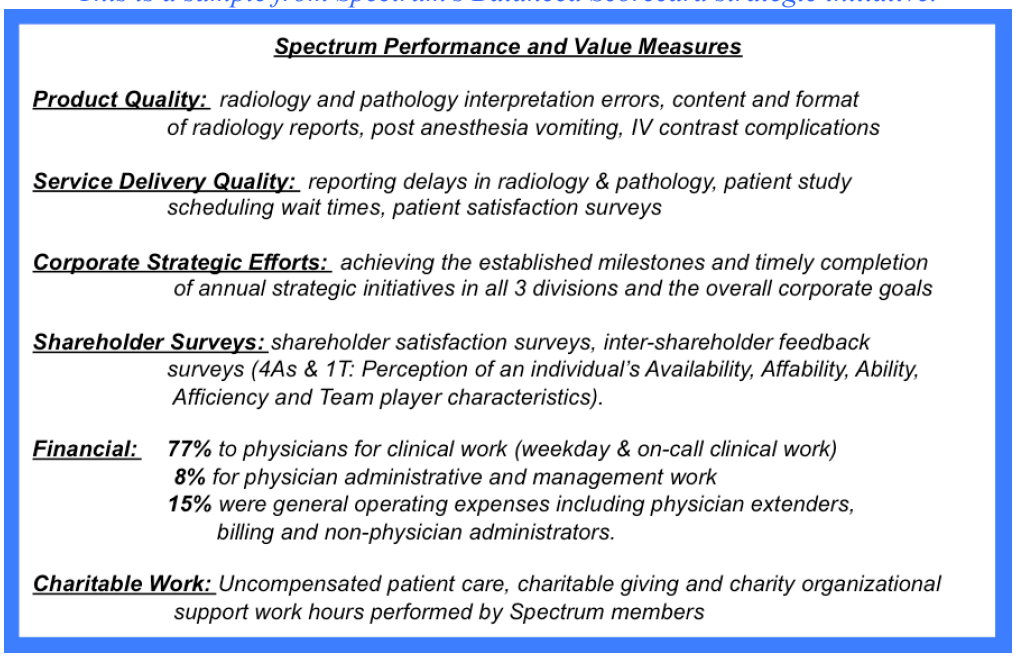
Explanations that the tangible returns from the merger would take some time was necessary. Many shareholders anticipated that other single specialty groups would soon join Spectrum. These expectations prompted many shareholder discussions and questions about whether the Spectrum merger could indeed be considered a success. Although some efforts took longer than anticipated, most benefits of the initial merger were realized. It was predicted that the organizational changes resulting from the rapid sequence of mergers would cause difficulties. Many shareholders, even some of the leadership group, showed an initial reluctance to accept electronic forms of communication, new clinical systems and business practices. The following statement was often heard at meetings:

'Everyone wants the benefits of Spectrum, but no one wants to change"

Group leaders explained the new value-added initiatives Spectrum was pursuing and shared the metrics quantifying the benefits at group meetings *(Fig #4)*.

Figure #4: Group Performance and Value Measures

Metrics were developed to measure Spectrum's performance.
This is a sample from Spectrum's Balanced Scorecard strategic initiative.



(iii) Balancing the clinical and 'non-clinical' work was challenging

The difficult work of creating Spectrum, establishing new agreements and the operating principles were only the beginning of the effort needed to move the company forward to benefit from this merger. While many after-hours of 'perspiration' were needed in the creation phase, physician leaders also needed time for 'non-clinical' work during usual business hours. Experienced and committed physician leadership is essential to the survival of a physician-directed corporation. Workload adjustments to reduce stress and provide time to gain these new skills were needed. Accepting that 'business work' had a similar value to revenue from clinical work was a big cultural change. Sometimes clinical physicians also thought group leadership had lost touch with the demands of patient care. Acceptance that all team members have important contributions is a characteristic of successful high performance teams.

Leaders needed to develop familiarity with thinking tools[8], project management skills[2], conflict resolution techniques, high performance team principles[2] and particularly quality improvement processes[1, 2] all part of any CBE program. Personal development such as ego management and the fundamentals of skillful dialogue[2] (including the primary importance of deep listening) was crucial. Adding CBE needs necessary for leadership development to CME requirements (to retain clinical competency) can often exhaust physicians. It is little wonder that many physicians frequently trade away autonomy for personal lifestyle.

NOW: Spectrum's Growth and Longevity

Spectrum continues to grow from its start in **1996** with 90 physicians, through **1998** with 114 physicians *(Fig #5)* and in **2015**, the total number of board certified physicians was 222, with 64 advanced practice providers, making a total of more than 600 physicians and staff working across Maine and Northern New England. Spectrum served 556,927 patients and 1,501,120 services were provided in 2015.

Figure #5: Spectrum Growth in 20 years
The clinicians and specialties 1996-2015

	1996	1998	2015
Total Physicians	**90**	**114**	**222**
Anesthesiology	38	54	80
Pathology	6	11	23
Radiology	41	43	80
Radiation oncology	5	6	6
Orthopedics			33
Advanced Practice Providers			**64**

Core strategies currently guiding Spectrum are: Provide quality, Provide for our people, Facilitate integration, Expand clinical reach, and Continue to add specialties. Today the principles of Spectrum's 'Triple Aim' are: optimize the experience of care, improve the health of populations and reduce the per-capita costs of healthcare.

Having celebrated its 20th birthday in **2016**, Spectrum continues to face the current healthcare environment challenges with 'eyes wide open', remaining cognizant of the predictors of corporate longevity: conservative financing, sensitivity to the local market changes and providing value-based care.

The Spectrum Story: 'Nudging' MMC

Improving Clinical Performance at MMC

This section describes two efforts to 'nudge' MMC in a more patient-centered direction:
(1) Redirecting MMC to include clinical quality metrics rather than using only financial goals to align administrator incentives with the core purpose of the hospital and
(2) Directing the broad coordinated effort to fund critical clinical infrastructure (for example, modernize the radiology film library by investing in a computerized image archival and distribution information system).

(1) 'Nudging' MMC to include Quality of Care Metrics

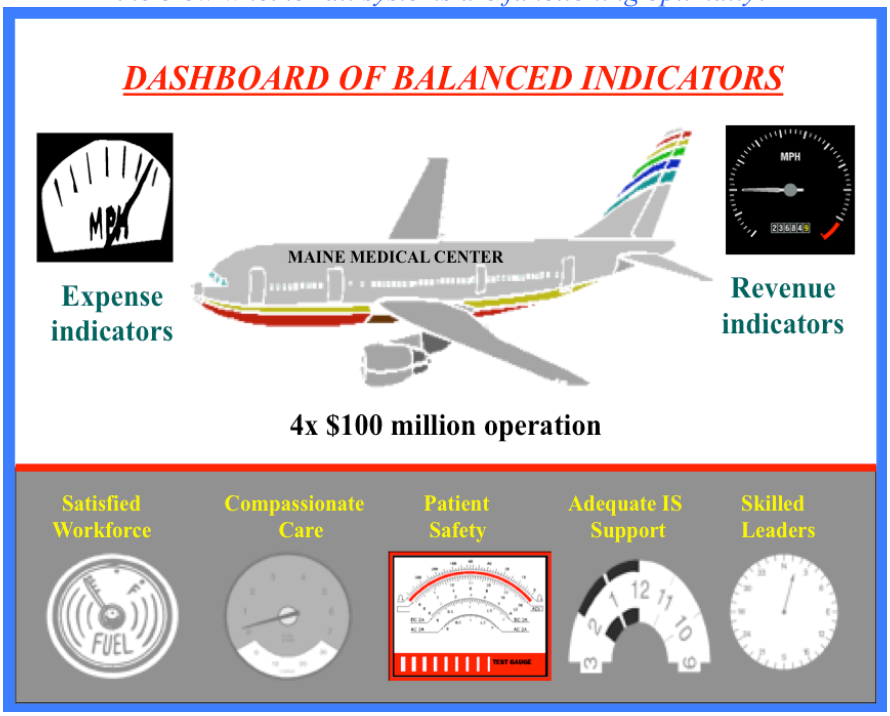
A primary strategic goal of Spectrum included optimizing the MMC clinical processes and improving the focus on clinical quality. As was common in hospitals during the early

1990s, MMC leadership focused on expense and revenue indicators of care, which meant that effective work systems designed to collect and measure patient care expenses were well established. Systems to provide easy clinician access to clinical information such as patient allergies, measures of clinical workflow processes, medical treatment errors (e.g. medication Rx errors, surgical complications and patient safety concerns), also became a priority in the late 1990s and early 2000s.

Although MMC administrators were interested in quality, they were uncertain how to address this. Broad support existed amongst MMC clinicians (physicians, nurses and others) for clinical improvement efforts and for developing a more robust clinical infrastructure. The following anecdote illustrates one small effort to shift MMC's Trustees and senior management team's focus from two financial metrics to a balanced set of clinical quality and financial indicators.

In presentations to MMC's Trustees, the following was asked: "***Who would fly in a jumbo jet that has only 2 dials informing the crew whether all systems are functioning optimally?"*** This visual *(Fig #6)* had a powerful effect. All were well aware that MMC was the equivalent to 4 'jumbo' jets and thus the implications and risks of the current focus became evident. By the end of that financial year, the CEO's bonus included the provision that about 25% would be awarded contingent on his successfully implementing a balanced scorecard system[6] that included many pertinent quality-of-care focused metrics.

Figure #6: Introducing Balanced Scorecard Quality Metrics
Who would fly in a jumbo jet that has only 2 dials informing the crew whether all systems are functioning optimally?



The reader should understand that this example was only one of countless efforts to re-direct MMC to adopt a more patient-centered approach. Each MMC clinical department and many Spectrum clinicians worked collaboratively with MMC to accomplish this goal over many years. Their contributions are detailed in the other clinical department and medical group chapters of this book.

(2) 'Nudging' MMC to fund critical Clinical Infrastructure

Details of the radiology image storage and distribution process failures during the 1990s in MMC's radiology file room are already described in the chapter on MMC's Radiology Department. This state of affairs resulted in suboptimal patient care. The following email *(Fig #7: left side)* was sent from the Radiology Department Chief to MMC's CEO. The consequences of radiology report delays and lost films due to file room issues are clearly outlined. Follow-up about 3 months after this email *(Fig #7: right side)* revealed 177 patient films were still without a radiologist reading, necessary to complete the billed clinical service. A different solution was clearly required: MMC needed to invest in an expensive computerized system.

"The definition of insanity is doing the same thing over and over again, but expecting different results."
Albert Einstein

Figure #7: Radiology Department Film Reporting Improvements

Extract from an email from Chief of Radiology to MMC CEO

"As you are aware from many prior discussions and presentations dating back at least 3 years, we have had a severe problem with our file room for years. Efforts to fix this have included countless hours of time on the part of departmental personnel, along with others inside MMC, and the services of two outside expert consultants. It is fair to say we have analyzed this problem thoroughly and I doubt there is much detail left that we don't understand.
We have suspected but been unable to get a firm handle on the scope of the issue of 'unreported activity', meaning studies performed but not dictated (reported) by the Radiologists. Last week we finally got that firm understanding, and it is horrifying. There are approximately 2000 studies in our system dating back to May 2000 that are still unreported! It is probably quite evident what the implications of this are, but I will enumerate them anyway: poor patient care and possible missed diagnoses, medical legal risk to the institution and to the physicians involved, both Radiologists and non-Radiologists, compliance issues in that these have been billed by MMC but not formally interpreted (completed as a clinical service), as well as economic losses related to the work to clean up the backlog."

Radiology Department Unreported studies 117 (3-month update)

2001
70 from April
15 from March
19 from February
15 from January

2000
19 from December
6 from November
9 from October
8 from September
10 from August
2 from July
3 from June
1 from May

Oldest May 17th 2000

Using Fake News to redirect Budget Priorities & improve Quality at MMC

MMC's senior management team met regularly in the early morning. This **'fake news'** report *(Fig #8)* was given to each attendee. It was ostensibly a photocopy of a news clipping summarizing the impact a 'lost' radiology study had on the care of a recent MMC

patient. As anticipated, all were quite disturbed by the news report. After potential consequences were fully digested and remedial steps to ameliorate the damage to MMC's public image were being discussed, it was revealed to be a 'fake'. The implications were clear to all: given the state of affairs prevailing in the radiology filing system, at any time this news clipping could become '**true news'**. The result was renewed interest prioritizing resources to improve clinical workflow and the radiology information systems.

Figure #8: Fake News used to improve Clinical and Patient Safety

MEDICAL ERRORS THREATEN PATIENT SAFETY AT MAINE MEDICAL CENTER

Mr. Hammond of Portland recently experienced acute pain in his abdomen while a patient at Maine Medical Center. His physician ordered an X-ray and a CAT scan procedure after surgical consultation. Mr. Hammond has previously been diagnosed with a cancer of the blood called lymphoma.

The Portland Press Herald has learned that the Radiology department lost Mr. Hammond's X-ray films for 2 days and the radiologist doctors (who read these films) did not get to see the old films until 72 hours after he had the procedure. Because all Mr. Hammond's previous X-rays and CAT scans that had been obtained over the past 3 years could not be found until 3 days after the new CAT scan, the doctors thought that some thickening of his bowel on the new CAT scan was a new development. When Mr. Hammond's pain increased, the surgeons recommended that he have surgery because of this "new" bowel mass. When they operated, a mass associated with the bowel was found but the surgeons were unable to remove it.

The family and Mr. Hammond were very disappointed when they were later told that the mass had been present on the prior CAT scan which had been "lost" for 3 days. Had the surgeons known this, they would not have operated. The family members feel that their father has had an unnecessary operation. They indicated that they have already received some bills from the hospital including some for the radiology studies.

Asked to comment on the issue, Mrs. Hammond said, "I am surprised to receive a bill for the radiology work. As they could only read these films properly after my husband already had his surgery, and he would not have had the surgery if they were read completely, I would think that they should not be able to charge anything for this work. My husband had an unnecessary operation and might have lost his life. We pay our insurance and will speak to our insurance company"

These two examples provide the reader a more granular view of the challenges the MMC family faced in the mid 1990s to the early 2000s. The subsequent 15 years have seen many improvements at MMC as the administrative management team, clinicians and community leaders responded to healthcare changes in the nation and locally in Maine. Each day opportunities to improve the care being provided are encountered. 'To Err is Human: Building a Safer Health System' and 'Crossing the Quality Chasm', the Institute of Medicine reports of 2000 and 2001 (National Academy Press) remain a useful roadmap in the pursuit of excellence at MMC.

Conclusion

Writing this chapter prompts the obvious question: would anyone want to read a story of 5 private medical groups overcoming the challenges to form a single corporation, acquiring skills to react to rapidly changing market conditions and then work together with MMC to improve the quality of care delivered even as the cost of healthcare was under attack? The answer remains uncertain, but if you are reading this sentence, you will know it's now too late to decide.

In trying to avoid a purely historical account, this summary has attempted to outline why Spectrum was formed, to clarify the goals and the vision of the founding members and to provide a description of some key concepts learned during the process. Clinical physicians have a unique view of patient care and see the purpose of a hospital differently from non-physician administrators. However, the best results are achieved when both perspectives are blended, always recognizing that the hospital is a community-owned resource, which does not need to control all facets of the health delivery market. When all participants in hospital decisions strive to listen carefully and to improve collaboration, meeting patient needs is achievable. Hospitals deliver high quality medical care most effectively when focused on quality indicators of medical care not just on financial metrics.

All those who played instrumental roles in Spectrum's founding, including those providing clinical services in the "trenches" and the physician leaders in Spectrum's beginning, middle and into the present time, deserve to be very proud. Rarely does one have the good fortune to participate in a high performance team that can contribute to the needs of human beings experiencing personal suffering. Are we able to see each radiology image, pathology slide or laboratory test and sedated or clinic patient as the fearful person who is seeking our help? Can we provide the same level of care to all our patients that we want for our own families? Working in modern healthcare and consistently offer the caring relationships our patients need is a supreme challenge. We are privileged to have the resources of Spectrum and MMC to help us in our effort to provide the compassion they seek.

Acknowledgements

I want to thank all those friends, colleagues and family members who spent many hours helping to massage a very rough verbose initial outline into the final more succinct and understandable story. Without their help, this chapter would not have been completed. All the remaining errors, impolitic statements and verbosity are solely my responsibility. Although often it is said that the truth should never spoil a good story, attempting to tell the truth always makes a good story, while remembering all truths are always only partial.

References

(1) **Enhancing Physician Performance – Advanced Principles of Medical Management** Editors: Scott B. Ranson, William W. Pinsky & John E. Tropman ACPE 2000
(2) **The Fifth Discipline Fieldbook** – Strategies and Tools for building a Learning Organization by Peter Senge, Charlotte Roberts, Richard Ross, Bryan Smith & Art Kleiner. Doubleday 1995
(3) **Total Quality in Healthcare - From Theory to Practice** by Ellen J. Gaucher & Richard J. Coffey. Jossey-Bass 1993
(4) **Complexity and Emergence in Organizations**. Series Editors: Ralph D. Stacy, Douglas Griffin & Patricia Shaw: **The Paradox of Control in Organizations and Measuring Performance** by Phillip Streatfield. Routledge 2001.
(5) **The Intelligence Advantage. Organizing for Complexity**. Michael D. McMaster Butterworth-Heineman 1996
(6) **The Balanced Scorecard – Translating Strategy into Action** by Robert S. Kaplan & D.P Norton. Harvard Business School Press 1996
(7) **The Living Company** by Arie de Geus. Harvard Business Review 1997
(8) **Teach yourself to Think** by Edward de Bono. Penguin Books 1995