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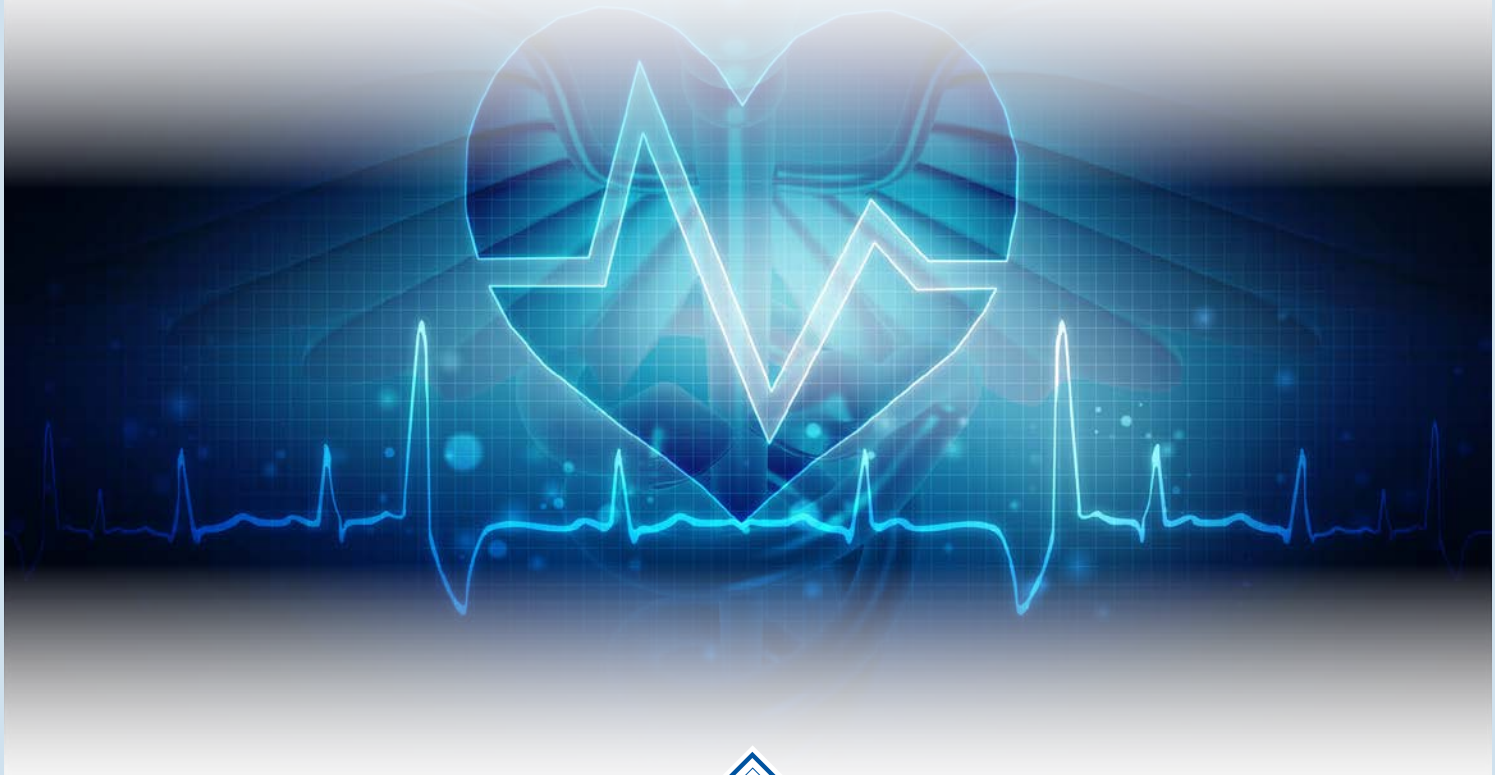
Leadership, Governance, and Changing the Business Model at Carilion Clinic

SEPTEMBER 2016



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Leadership, Governance, and Changing the Business Model at Carilion Clinic

Facing Change: Carilion Health System in 2006

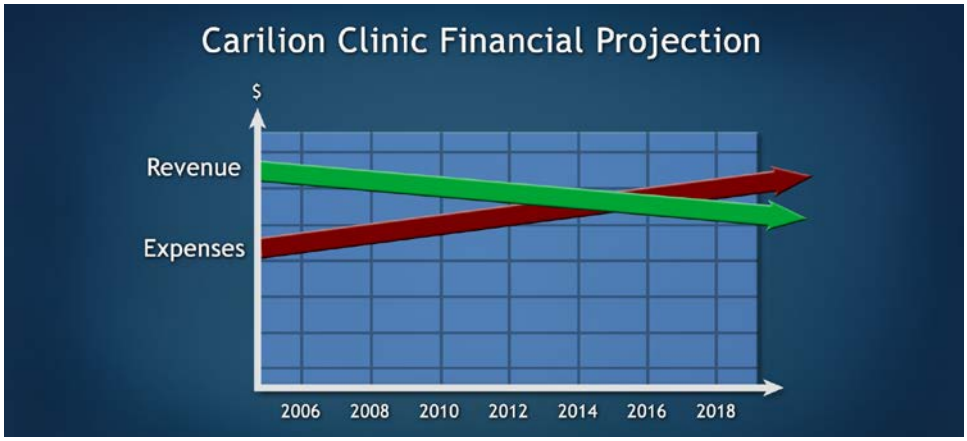
Leading up to 2006, Carilion Health System was perhaps years ahead of peers from the standpoint of employing primary care physicians. The organization was faced with a "must do" decision in the 1990s when local primary care physicians began seeking affiliation opportunities due to financial pressures. A group of over 100 primary care physicians—a core of Carilion's admitting physicians—announced their intent to sell or consolidate.

So as the health system acquired the practices of about 80 of those core physicians, Carilion leaders suddenly realized they needed to learn how to work with physicians in a coordinated manner, as well as recognizing the need to build an administrative infrastructure to support those physicians, which included an electronic health record (EHR). By 2002, the health system had evolved into one with a very active physician administrative structure with a unified EHR.

From 2002 to 2006 across the U.S., Medicare reimbursement began to decline due to financial pressures and utilization metrics showed a potential for excess bed capacity at many hospitals. While Carilion's financial outlook was strong, the overall industry picture developing revealed concerns for the future.

The CEO at the time, Dr. Ed Murphy, felt that the national outlook would result in declining revenues and rising costs, and his estimate about when they would cross into the negative if no changes were made was roughly 2015 or 2016. Beyond the dismal financial scenario, Dr. Murphy did not want Carilion to become a "takeover target" for competitors. So he held a retreat for board and senior leaders to ask some critical questions about the challenges they were facing and propose some potential solutions.

System Board Chair James Hartley recalled the discussion at this retreat. "They started out by asking us what we thought we really needed. I don't think any of the executive committee members really were prepared to answer that. The gentleman they started with to my right just simply said, 'I pass.' So it fell to me to say something. One of the things I thought we needed was alignment with physicians. And Ed and Nancy [Howell Agee, Carilion COO at the time] looked at each other and said, 'Hold that thought, we'll get back to you.' Over the years there had become tension between the hospital management and the physicians. There was always some flashpoint, whether it was call pay or taking call or the amount of call, medical education, what role the physicians are going to play in our residency program. There was just tension there."



Snapshot: Carilion Clinic

Carilion Clinic is a not-for-profit healthcare organization based in Roanoke, Virginia. Its comprehensive network of hospitals, clinics, primary and specialty physician practices, and other complementary services provides care for nearly 1 million Virginians. Magnet certified, it is home to the only Level I Trauma Center in Southwest Virginia and the only neonatal intensive care unit. It is rated a "Top Performer" for patient treatment and outcomes by The Joint Commission, and "Consumer Choice No. 1" by National Research Corporation for the past 10 years.

Carilion Clinic also includes the Jefferson College of Health Sciences and the Virginia Tech Carilion School of Medicine and Research Institute. The medical school has four domains:

1. Basic science
2. Clinical science
3. Research
4. Inter-professionalism

It is one of the first in the country to include this fourth domain. Students work across four years with physician assistants, nurses, and practitioners from other disciplines to prepare them, prior to residency, for working in multi-disciplinary care teams.

Local competitors include for-profits HCA and LifePoint, which have traditional hospital operating models. Carilion considers its secondary competition to be the medical centers and schools at University of Virginia, Duke, and Wake Forest. Its payer mix is largely made up of Medicare and Medicaid patients.

The governance structure consists of a system board, six hospital boards (primarily focused on quality and credentialing, with a few exceptions), and one foundation board. The clinic employs a physician/administrator dyad leadership model for each department or service line; these leaders sit on the board of governors, which makes recommendations to the system board.

The clinic evolved from its very early roots as Roanoke Memorial Hospital, founded in 1899. It began employing a small number of physicians in the early 1970s. The organization then went through a period of expansion including acquiring other nearby hospitals and employing primary care physician groups during the mid-80s and early 90s, forming Carilion Health System. The conversion to a clinic model was decided in 2007 and implemented from 2008–2012. The vision for moving toward the clinic model was spearheaded by former CEO, Dr. Ed Murphy, who left Carilion in 2011.

Mission: Improve the health of the communities we serve.

Vision: We are committed to a common purpose of better patient care, better community health, and lower cost.

The numbers:

- Revenues: $1.5 billion
- Operating margin: 3.7%
- Employees: 11,000
- Employed physicians: 1,000
- Facilities in 17 counties: 285

Considering the Options

The "Plan A" proposed by consultants at the 2006 retreat included consolidation via partnership with or sale to better-capitalized providers (including for-profit organizations as an equity partner). But these notions were rejected by Carilion's board, leaving open the gap of trying to determine what to do next. According to retired CFO Don Lorton, the board felt that the organization's role was to provide the best medical care in the community, and board members were not comfortable with relinquishing control of that through consolidation of any kind. "We were the largest private employer west of the state capital in this whole area of Virginia, and we felt like we had a real responsibility to the community," said Hartley. "Not only for medical care but as a civic leader, an employment leader, and leader of economic development." The board's advice to management was to take consolidation off the table for the time being and look at other alternatives. Immediate ideas centered on how to invest in growth, create economies of scale, and leverage with payers ("traditional" approaches).

But recruiting physicians in the needed specialties to a rural area with a largely Medicare/Medicaid payer mix was becoming more difficult. "Physician salaries and compensation packages for new graduates out of residencies were going up and a lot of our local practices—specialists in particular—were having difficulty recruiting because residents were going to bigger markets and making as much as some of the specialists were here locally," Lorton explained. "So that was leading us down the road to believe that we were probably going to have to look at more of an employment model of affiliation to meet the ever-growing need for specialists in this community."

The challenges, as viewed by the CEO and board in 2006, were:

1. More difficulties in recruiting needed specialists to a rural area
2. Declining reimbursement and excess bed capacity (disconnect between patient needs and care settings)
3. Disjointed care delivery; a need to increase value through higher quality and more efficiency
4. Tension and poor alignment between medical staff physicians and the system

The idea of the clinic model began to take shape as Carilion leaders and the board recognized that key pieces of the puzzle already were in place for an employed or integrated structure of some kind: a large, employed primary care physician group and a unified EHR, for starters. Visits to Mayo, Lahey, and Cleveland Clinics came next. Lorton continued, "We began to do site visits at facilities that had done clinic conversions, including those who had been clinics and acquired hospitals, and people who had grown up as an integrated clinic. And every story was different and unique to the facts and circumstances of those communities. But there were some common takeaways. Very significant among those was that in the integrated organizations, the quality of care and health status of the patients was better, the cost of care on a unit basis—so per hospital day or per CT scan—was generally lower. And the overall cost of care on a per capita basis was lower."

Carilion's leadership knew they would not create an organization exactly like one of these, but they would take certain elements from each that made sense for Carilion.

Key Takeaways: The Carilion Clinic Journey in Brief

The Problems in 2006

1. More difficulties in recruiting needed specialists to a rural area
2. Declining reimbursement and excess bed capacity (disconnect between patient needs and care settings)
3. Disjointed care delivery; a need to increase value through higher quality and more efficiency
4. Tension and poor alignment between medical staff physicians and the system

The Proposed Solution

Transition to a clinic model with physicians in key leadership roles, to provide higher-quality, better coordinated, and more efficient patient care.

Steps Taken (2007–2012)

1. Communicate the plan and reasons behind it to stakeholders: physicians, patients, and community.
2. Recruit specialists and build clinical departments.
3. Determine productivity-based physician compensation structure.
4. Maintain an open medical staff.
5. Implement a dyad leadership structure with a board of governors, made up of physician and administrative leaders, that makes recommendations to the system board.
6. Expand the patient-centered medical home model to enhance care coordination.
7. Build a medical school and research institute to draw the best and brightest.

After the 2008 stock market crash, Carilion leaders were faced with accomplishing a financial turnaround in the middle of the clinic conversion, which represented a significant investment. A five-year plan to accomplish the financial turnaround included:

- Facilitating more growth through physician recruitment and continued development of the medical community
- Engaging physicians in significant work on cost management and efficiency in throughput, patient processes, and negotiations for vendor contracts
- Creating greater access for patients so they don't have to travel outside the service area, combined with the ability to provide more timely care, which has contributed to market share growth and higher volumes
- Implementing an aggressive performance improvement program over 2010–2011

Results to Date

- Patients are treated through a collaborative, multi-disciplinary care model that provides better care coordination and increased quality.
- The clinic has achieved significant cost savings and higher efficiency.
- Physicians are aligned and engaged via regular communication channels and developed through a physician leadership academy.

Six successes that could not have been accomplished without the clinic conversion, according to Carilion leaders:

1. Ability to attract and retain expert physicians to offer phenomenal care and allow for a strong competitive position
2. Competitive medical school with 100 percent match rates and expansion of the residency program
3. Support systems to keep physicians happy and allow them access to training to be good administrators, leaders, and teachers
4. Ability to bring back and sustain a 3 percent operating margin, with plans to increase to 5 percent in the next five years
5. Increase the number of specialty services provided in the region and thus grow market share
6. Better position to meaningfully improve the health status of populations

First Steps and First Hurdles

Carilion's primary aim in becoming a physician-led clinic was simple: to find a better way to provide comprehensive, streamlined, efficient, and coordinated care, at a lower cost and in a way that was better for patients and the community as a whole.

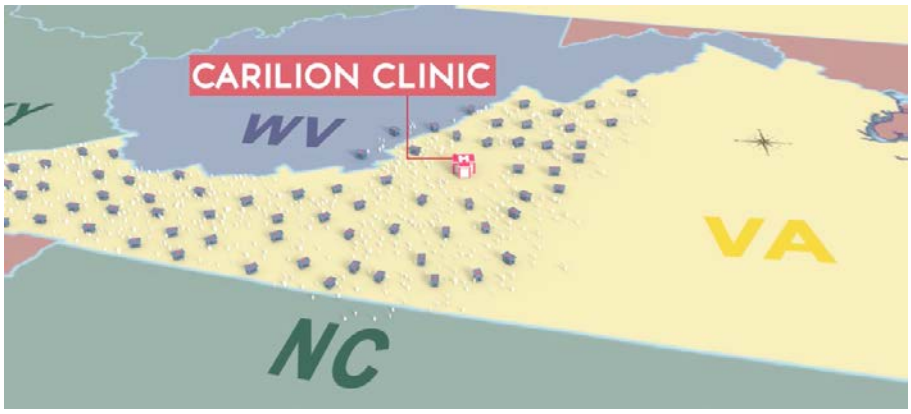
As Carilion had already employed the primary care physicians needed in a clinic model, their first step was to begin recruiting and hiring specialists and building clinical departments. The primary care physician group had a strong voice in the organization and were very supportive of moving towards the clinic model and the reasons behind it. In the initial days of announcing their decision to become a clinic, many of the puzzle pieces of how the model would ultimately take shape were not fully formed.

Dr. Murphy held a meeting for Carilion physicians to announce the move to become a clinic. But "the way the message was delivered" was more of a "rip the Band-Aid off" or "pull the trigger" approach, which did not help build trust or understanding that this move could be beneficial to most of the physicians in the room. While clinics are usually physician-led, Dr. Murphy's message left this important issue in the grey area (would it be top down or bottom up?) and many physicians lacked confidence that their voice would be heard.

"It could be a very painful conversation out in the community because the community didn't know what [converting to a clinic model] meant," said Melina Perdue, Executive Vice President. "Physicians in our community carry a lot of weight and respect. Patients trust them. So the things they would say to the patients, or to their friends out in the community, were believed. It took a lot of thick skin, a lot of explaining and re-explaining and re-explaining as to why we thought this was a good thing to do. And the very first thing that we had to try to get our arms around was allaying the physician concerns."

Don Halliwill, Executive Vice President and CFO, explained, "There was a lot of concern that it meant closed medical staffs—that only employed physicians would operate within the Carilion Clinic system. Of course that wasn't the plan and that didn't come to pass. But there was a lot of fear, a lot of misunderstanding. Quite frankly, we didn't have all the answers for what it would mean and how it would change over time. For the first two to three years where there was a continuous stream of questions. We used the comparison of building the airplane while it's in flight."

Due to the lack of a comprehensive communication plan (in part because the answers to questions were still being worked through), and though the aspects of the model were explained many times to many different stakeholders after the initial announcement, there still existed concerns and mistrust from medical staff physicians. With employment came the assumption that autonomy would disappear. Many physicians walked away, including a large radiology group where all but one left almost immediately after the clinic announcement.



Implementing the Model: A Years-Long Process

Steps to transform Carilion from a health system to a physician-led clinic:

1. Communicate the plan and reasons behind it to stakeholders: physicians, patients, and community.
2. Recruit specialists and build clinical departments.
3. Maintain an open medical staff.
4. Determine physician compensation and leadership structure and put the right leaders into the right places.
5. Expand the patient-centered medical home model to enhance care coordination.
6. Build a medical school and research institute to draw the best and brightest.

The conversion to a clinic took several years, roughly from 2007–2012, although many at Carilion still consider it to be evolving. Part of that evolution was to figure out how to work through physician mistrust and recruit for those positions that did not come on board with them initially. Working through those hurdles involved "telling the story" over and over again, to dispel rumors and help people understand what it would mean for them as individuals. Dr. Wayne Gandy, the lone radiologist who stayed with Carilion and became the CMO, played a key role in rebuilding physician relationships and trust.

"There was friction, a lot of friction back then. So I saw Wayne every day walking some floor," said Dr. Joseph Moskal, Chair of the Department of Orthopedic Surgery at Carilion Clinic and Chairman and Professor of the Department of Orthopedic Surgery at Virginia Tech Carilion Medical School. "I'd always run into him just shaking hands, asking how people are doing, just thanking people and listening. I'd see him in the OR talking and listening. He would ask, 'How can we do things better?'"

In the first few years, the focus was on bringing in physicians to chair the clinical departments. Once they were recruited, questions remained: did they need to recruit other physicians to fill out their department? What size was each department going to be? Most of the physicians initially recruited came from outside the area so they needed to take some time to get to know Carilion while trying to build their departments from the ground up at the same time.

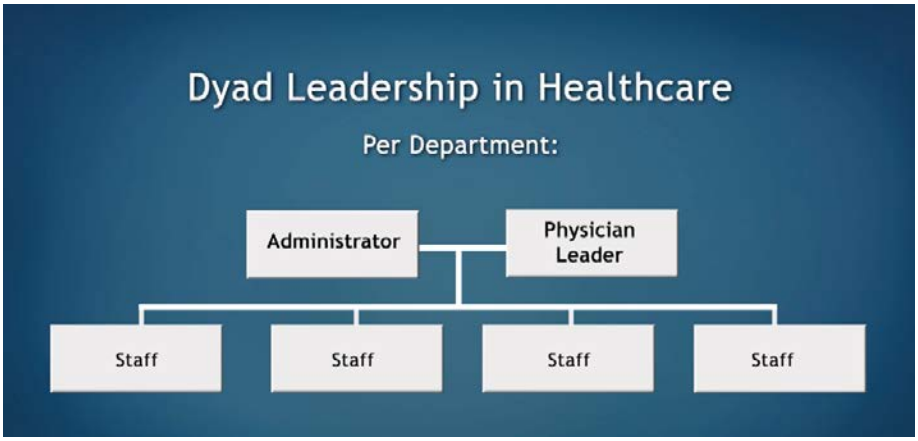
Dr. Murphy left the organization in 2011, at which point the conversion was well underway, though there was still much work to do and progress had reached a bit of a plateau. Nancy Howell Agee, who went up the ranks over several decades from nurse to department leader to COO, was asked to replace Dr. Murphy as President and CEO. The timing couldn't be more important, as Nancy was the one who would ultimately take Carilion beyond the remaining hurdles to finalize the clinic conversion.

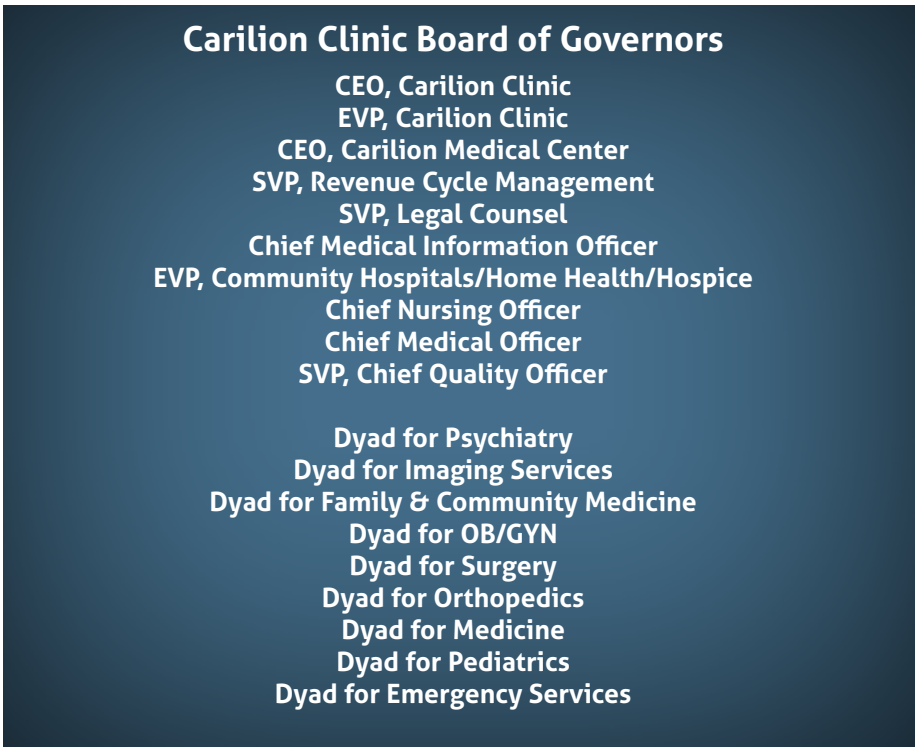
"When the board met with me initially, we talked about where we were and where we wanted to go," Agee said. "The board kindly gave me about three months to think through what that meant and what our direction was. A team of us looked hard at where we were and where we thought we could go. And it was evolutionary—it wasn't three magic bullets. We thought we could become more efficient. We thought we could grow market share. We thought that we could add sophistication to our physician mix and more specialties and subspecialties, as well as growing primary care. So we mapped out a plan that was, I think, cogent. And the board was hugely supportive—they believed in the clinic model."

Perdue concurred. "Nancy stepped up and said we need to start having more global grassroots conversations with the staff. She's a nurse and she could relay the message of care. She could make the explanation less fearful, more correct, and tell the other side of the story. They knew her, they trusted her, and they trusted her word. So I think that was a very defining moment for the clinic and starting to see the turn of the ship to a more positive mode."

Dyad Leadership and Board of Governors

Beyond building out clinical departments, determining the leadership structure and how physicians would fit into that brought up important questions and considerations. Jeanne Armentrout, Executive Vice President and CAO, recalled, "I remember the question being asked—who's going to lead areas like human resources? And the answer was a physician. Well we got a little nervous. What does a physician know about human resources? But that really wasn't the case, that wasn't what ended up happening. But it was a big, big change."





Almost immediately after announcing the clinic model, a new leadership structure was put in place through creation of physician–administrator dyads for each clinical service line across the organization. These dyads are charged with operations, quality, cost, and strategy for their service line. They sit on a board of governors, along with the C-suite officers, and meet every other week to discuss capital purchases, new ventures, physician acquisitions, retirement planning, the organization's vision, etc., and make recommendations to the system board. The board of governors has its own scorecard that is updated with new goals and metrics each year, which is aligned with the organizational strategic plan as set by the system board.

"It was a clear signal to the organization that we were now a physician group," remarked Steve Arner, COO of Carilion Clinic and President of Carilion Medical Center. "Physician groups use hospitals when necessary. We weren't a hospital company employing doctors. And I think that's important. It's not just writing contracts with physicians. It was a major signal to the organization something was different."

In this structure, physicians and administrators work side by side on a daily basis, allowing for regular communication and decision making, so the leadership team doesn't have to plan physician meetings well in advance in order to get everyone in the same room at the same time. It has given physicians a strong voice in the leadership and direction of the organization, and has proven an effective mechanism to implement change such as building efficiencies and cutting costs.

"I'm now on the board of governors as chair of the department," said Dr. Moskal. "It's the real deal. I can question, I can challenge, I can give my opinion and it's listened to. And I have the ear, not of just the other members of the board of governors but also the board of directors. There have been some heated discussions and things that I disagreed with. But I at least had a chance to weigh in. That's unique—that's something we never had before."

Medical Staff Compensation and Open Model

When the primary care group was employed in the 1990s, the compensation plan was driven by the same productivity drivers necessary for a successful private practice. This early experience with physician employment helped Carilion develop effective compensation arrangements that would be financially sustainable in the clinic model. The challenge was finding attractive salary levels that would also sustain the physicians to be able to do teaching, research, and administrative work, while setting RVU and productivity expectations. To do this, they created a balanced scorecard with quality and productivity metrics tied to a collection bonus. Each clinical department chose their own metrics, but they had to show that those were in alignment with the goals of the clinic. There were some initial growing pains as physicians got used to practicing in this way. According to Donna Littlepage, Senior Vice President of Accountable Care Strategies and CFO of the Virginia Tech Carilion School of Medicine, "There were a lot of doubts initially about the validity of the data. It took a couple of years. But at a point in time, that scorecard really was helpful in driving a common purpose and a common goal."

Another aspect of their model was the decision to keep an open medical staff. Roughly 30 percent of Carilion's practicing physicians today are not employed. However, Carilion Clinic sets an expectation that all physicians, regardless of employment status, practice according to the system's quality measures and evidence-based protocols, so that all patients receive the same level of quality care. To date, the non-employed physicians have been amenable to practicing according to Carilion's standards.

"We have standards of behavior and roles and expectations, which we certainly hold employed physicians accountable for," said Dr. Patrice Weiss, CMO and Executive Vice President.

"If you don't employ those providers, that end-of-the-line [accountability] piece does not exist. But we have very strong organized medical staffs for which all of us are held accountable for the care that we deliver, the behavior that we demonstrate, whether we're employed or we're not employed. And at the end of the day, those clinical outcomes, the patient experience, the quality of care that we deliver—that is really the end piece. And that is not any different, whether one is employed or not employed."

Let's Build a Medical School While We're at It

Carilion has a history in education, beginning with a surgery residency program in the 1940s that expanded into a number of other core residency programs including family medicine, internal medicine, and OB/GYN. In the early 1970s there was an expansion of community medical schools across the U.S., during which time the University of Virginia reached out to Carilion (Roanoke Memorial Hospital at the time) to become a site for third-year medical students. This relationship continued until about 2004.

To address recruitment challenges during the clinic conversion, Carilion saw an opportunity to partner with nearby Virginia Tech to create a medical school and research institute. The president of Virginia Tech at the time wanted to enhance the university's national reputation and increase research funding, and felt that this goal could not be reached without a prominent medical school. Carilion leaders felt they could not reach their goal of running a clinic without cutting-edge research and teaching.

"We felt that it would help us to keep recruiting the best and talented and smartest physicians," Dr. Moskal explained. "We needed that. The times had changed. It was different from when they started the group in 1955 to the 60s and the 70s and even the 80s. It was a different thing—it was fee-for-service back then. The model was changing, and it was becoming harder and harder to recruit talented people to the area. We knew that we had to keep getting the next generation and the vanguard to come on, and we were having a harder time."

"Ed Murphy walked into a little office I had at Roanoke Memorial and said, 'I need you to work up the financial projection for a medical school,'" said Littlepage. "And I looked at him and said, 'You know I only work in healthcare, right? I don't do education.' He said, 'You can figure it out.' And Dr. Harrington [the Vice President of Academic Affairs] and I worked up a whole plan. How do you teach students? What does it cost to teach students? How do you use the infrastructure of Virginia Tech and Carilion to build a great medical school that doesn't cost as much as the average medical school?"

Chief Quality Officer and Chair of the Department of Medicine, Dr. Ralph Whatley, joined Carilion in 2007. "I had about a nine-month period of recruitment where I was trying to decide if the plans the Carilion leadership had at the time were feasible," Dr. Whatley recalled. "And what I heard and what I was observing was something very intriguing—the desire to transform the health system as well as expand medical education, partner with Virginia Tech, and create a new medical school and research institute. And I have to say the reason I joined was all those things were very exciting but also very challenging. It was an opportunity that I wanted to be a part of."

With the new Virginia Tech Carilion School of Medicine and Research Institute, in combination with the clinic, the organization became a magnet for "pioneers." Littlepage continued, "We joke and say seven years later, here we are and that school is still living within the pro-forma we wrote for it when it was first designed. Because of the work that Virginia Tech and Carilion have done, it's one-tenth the cost of the average medical school to teach the number of students we teach."

Financial Stumbles

The clinic conversion represented a significant financial investment for Carilion, in the form of employing physicians and faculty for the medical school, and building new facilities including clinics, a hybrid operating room for the cardiovascular intervention program, new radiology facilities, the research institute, medical school campus, and parking garage. Estimates put the investment at $500 million from 2006 to 2012. Financial projections included impacts on operating income and balance sheet stability. The board and management knew there would be some "financial dampening" in the first few years and felt that their historic financial performance had put them in a good place to make such a large strategic change and bear that risk. Then, at the end of 2008, the stock market crashed.

Their bond rating was downgraded. Getting through involved patience, persistence, and hard work. "There wasn't a silver bullet," said Lorton. "There wasn't a $10 million or $20 million idea. There were lots of $250,000 and $500,000 ideas. But we had a $40 million turnaround to accomplish. And so it takes a lot of those and it takes a long time to implement." Ironically, the clinic conversion (and specifically having physicians in leadership roles) helped them facilitate actions to get the finances back on track.

"It would have been easy to point the finger and say, 'See what happened when you made this decision [to move to a clinic model],'" Halliwill said. "It was the vision of our leaders at the time—they were able to express what we were really trying to achieve, which was a long-term play as opposed to a short-term tactic. That really helped us convince bondholders and others that we would be able to weather the storm. We had support from our teams, from our communities, from our medical community, and our patients. And that contributed to wind in our sails to get us through those challenging times and to calmer water."

A five-year plan to accomplish the financial turnaround included:

1. Facilitating more growth through physician recruitment and continued development of the medical community
2. Engaging physicians in significant work on cost management and efficiency in throughput, patient processes, and negotiations for vendor contracts
3. Creating greater access for patients so they don't have to travel outside the service area, combined with the ability to provide more timely care, which has contributed to market share growth and higher volumes
4. Implementing an aggressive performance improvement program over 2010–2011

Results to Date: Successes and Continuing Challenges

Collaborative Care Model

Carilion Clinic has emphasized the importance of collaborative, multi-disciplinary care, both in the medical school and also in practice. Fiscal decisions regarding purchasing new capital, expanding service lines, and whether to hire additional providers are all physician driven and process-based. Clinical chairs meet weekly to discuss throughput, quality scores, compensation, and productivity across all service lines. For example, the Carilion Clinic Breast Care Center involves many different kinds of providers integrating care from screenings and primary care to radiology, radiation therapy, surgery, and pathology. Dr. Weiss said this model "can be applied across the system for many different service lines. It allows for optimal patient care and integration of care across all specialties, and it keeps your focus on the patient."

"The traditional academic model is highly siloed," explained Dr. Whatley. "We put a premium on team play, working together in an interdisciplinary fashion, whether it's a surgeon, a

cardiologist, or a gynecologist. That's an expectation of our leadership—we will work together. The traditional academic model is, for lack of a better way of putting it, 'building my fiefdom.' And that will not work here."

Arner provided an example. "We've had service lines (like many) for a very long time. But two in particular—we have an institute of orthopedics and neurosciences and we have a leadership triad with the orthopedic chair, the section chief of neurosurgery, and a vice president. Their job is to think through the best way to do pain management or the best way to do spine care, which would be an overlap of ortho and neuro. So we have orthopods and neurosurgeons working together."

"I think what providers think about the employed model is there's going to be somebody there telling them every second of the day what they're supposed to do. Those kind of myths can take on a life of their own. But I think as our employed physician model and our clinic model has evolved, we have never lost sight of our most important mission and that's taking care of the patients who entrust us with their lives. When you're in healthcare and someone tells you that, it *sounds* good. But when you see that in action, then it makes a difference."

—Patrice Weiss, M.D., Chief Medical Officer and Executive Vice President

Better Care Coordination and Increased Quality

The primary care physician group with Carilion had already begun to build a medical home model prior to the clinic conversion. As part of the clinic, they are working to expand the medical home model and focus more on the most at-risk patients and those who need more healthcare services. For example, the chronic disease management program, which is facilitated by the EHR, provides intensive case management for patients with three or more chronic illnesses. They have seen a material decrease in the number of visits to the emergency department and hospital admissions and readmissions, as well as reductions in the use of expensive technology such as unnecessary or duplicative CT scans. Accountable care metrics in primary care settings are in the 80th percentile and going up, and they are seeing steady improvement in other quality metrics. Dr. Whatley will never feel comfortable that their quality performance is good enough, so they will remain relentless in seeing continued progress in all areas. But physician engagement is such now that "oftentimes they are approaching us with ideas about better quality of care—that happens on a regular basis," said Dr. Whatley.

Dr. Harrington highlighted other improving quality metrics, which he believes have been accelerated due to the clinic conversion. "We have made huge gains over the last several years in terms of increasing handwashing and decreasing our rates of ventilator-associated pneumonia and CLABSI infections. Our residents are taking care of patients, so if you can get the residents on board to be focused more on quality and safety, you're going to be able to decrease the rates of those hospital acquired infections and you're also going to allow patients to leave the hospital sooner, thus hospital costs are less."

"With our patient-centered medical home, we have a great opportunity to create a partnership with our patients, which will then reduce, at some point in time, the number of inpatient

beds we need," Perdue said. "It will increase the need for ambulatory services, whether it's home care, hospice, more therapies, more access for patients who don't require coming to a hospital. We are doing a lot now that we don't get paid for but it's the right thing to do for the patient. And I think it's hard to turn that boat when the payment structure doesn't change."

The clinic model allows for more streamlined services across the care continuum beyond the medical homes, from hospitalists to home health and hospice services. Velocity Cares urgent care centers have been placed in the areas of the communities that need it most, to reduce ED visits. All of these enable care to take place where it needs to be, whether inpatient or outpatient.

Cost Savings and Higher Efficiency

When researching other clinic models, cost savings was one of the common benefits. "We knew from our benchmarking with other clinics that you could lower costs both on a per unit basis and on a per patient basis," Lorton said. "So a combination of cost reductions and volumes were the real answer."

Because of the dyad leadership structure and board of governors, physicians have become the center of efforts to improve quality and efficiency and cut costs. "A great example is order sets and how to review and approach them," Arner said. "The director of our pathology group looks at our lab orders and noticed they were ordering some redundant tests. When he was the one championing changing the order sets with all physicians it became an easy way to plug in. He didn't have to have 100 different conversations, he had three or four. We took $1 million out of annual spend simply by changing the order set. The orthopedic group weighs in on which cement and joints we use, who we contract with, what are the contract terms. They are all engaged in that conversation—physician champions in every group helping to lower costs."

Dr. Moskal and the orthopedic group have been leaders in many of the physician-driven cost reduction efforts. "If I take something out of your body, why do I have to send it to pathology?" he asked. "There's a direct cost—the professional fee, and an indirect cost—the pathologist. So if I take a wire out or a bullet out of somebody, why do we have to pay somebody else to tell me that it's a bullet or a wire? I can tell what it is. Well, that's the way we always did it—everything went to pathology. So we did the cost savings on that and saw that was huge. And we'd constantly keep asking that question and challenging ourselves in the department. Why are we ordering that blood work? We got actively involved in negotiating for implants for total joints or spine or trauma. We're almost at $15 million of savings from implants, without any deleterious effect on patient care. We have the same implants, we're just getting them cheaper because we said, as a group, that we would agree on which implants to use. And that sent a strong message to the vendors that the physicians mean it, where the old model was divide and conquer."

Physician Communication and Leadership Development

Carilion Clinic leaders are now investing in engaging physicians and developing physician leaders. The CMO sends a weekly email out to all physicians and involves physicians in areas of the organization where physicians are not typically involved, such as supply chain and clinical risk management.

A physician leadership academy has been established to enable chairs and chiefs to understand more of the "nuts and bolts" of running a business, including finance, legal, employment laws, and change management strategies. The CMO presents expectations of physicians and what it means to be a Carilion physician, and the CEO discusses Carilion's mission and vision. Leadership coaches conduct assessments to determine strengths and weaknesses and create leadership development plans for each physician. Physicians also must choose a special project—clinical or financial—to complete with a mentor during their time in the academy.

Setting expectations upfront has been a critical component for Carilion and its physicians. Beyond contract stipulations during hiring, the CMO conducts a physician-led orientation that covers performance requirements, benchmarking, which metrics are used, education on HCAHPS and CG-CAHPS (patient experience) metrics, and how physician data will be shared and improved upon. Dr. Weiss elaborated, "Many of [the newly-employed physicians] may not have experienced benchmarking and data. So first we share [physician data] as a collective group—this is how we're doing as a clinic, as a department, or as a division or a section. But I think the other piece is for them to know why we're looking at it and why it matters. So now, with everything moving toward value and public reporting, physicians are actually asking to see their own personal data. They want to know their individual quality outcomes, readmission rates, infection rates, and cost of X procedure versus their peers and national benchmarks."

Challenges Remain

The clinic conversion went beyond a structure change—it also was a significant culture change, which must be renewed and maintained on a daily basis. Hartley described the effort. "You can't just say okay, check that box off, we're finished with culture. Every day we're out working and making sure that we're getting the culture down, not only through our physicians but right down to the bedside to make sure everything is right. And I think that's just an incredible challenge."

Carilion physicians are assigned with providing top-quality clinical care while also teaching, leading, administrating, and incorporating research to "push the envelope on cutting-edge care," said Dr. Weiss. Finding the right balance is an ongoing challenge. "I think we all recognize that our first mission is the clinical care. But I think the majority of our providers who are here—while they are absolutely dedicated to their patients, they're also dedicated to educating residents, medical students, nursing students, and advanced care practitioner students. It's very rewarding. But you need to attract the right people. If the interest is 100 percent clinician, that's very difficult then to incorporate medical education and teaching."

Six successes that could not have been accomplished without the clinic conversion, according to Carilion leaders:

1. Ability to attract and retain expert physicians to offer phenomenal care and allow for a strong competitive position
2. Competitive medical school with 100 percent match rates and expansion of the residency program
3. Support systems to keep physicians happy and allow them access to training to be good administrators, leaders, and teachers
4. Ability to bring back and sustain a 3 percent operating margin, with plans to increase to 5 percent in the next five years
5. Increase the number of specialty services provided in the region and thus grow market share
6. Better position to meaningfully improve the health status of populations

Moving Forward: Leveraging the Clinic Model for Success in Population Health

Today, Carilion leaders consider their organization to be extremely strong in providing high-quality acute care. For next steps they plan to stretch their goals further along the continuum to build strength in population health and preventive care, before patients present themselves at the hospital.

By emphasizing multi-disciplinary and team-based care, the clinic model has enabled Carilion to make decisions and implement changes more swiftly because physicians, nurses, and administrators are always working together with aligned goals for the system. For example, when Carilion held an on-site conference on patient experience, Arner referred to two or three new ideas from the conference that they were planning to implement that very afternoon. "I think the clinic model makes it an easier journey because we have the physicians with us side-by-side," said Armentrout. "We're not doing it against them or pulling them along, they're by our side, and in many instances, they're leading those movements." Littlepage concurred, "It has positioned us much better for where it appears healthcare is headed—and we wouldn't have been well positioned if we were still very much a hospital-centric system without this cadre of physicians who are here to help lead us through this transition."

"My guess is you'll see a decline in back surgery here, and there will be surgeons actually saying we don't need to do back surgery, which is pretty exciting. We have a cardiac surgeon now who will say, 'You know what, it would be great if we stopped doing open heart surgery.' And he's genuine about it."

—Steve Arner, COO

Goals for 2016 and beyond:

- Move more patients in the service area into medical homes.
- Continue to reduce readmissions and unnecessary care and improve coordination.
- Expand wellness programs beyond employees into the community; address socioeconomic and educational disparities and make an impact in schools.
- Continue to improve quality and clinical excellence; expand specialty services.
- Continue to fill new and unique positions to help support physicians and accomplish these goals such as a Director of Interactive Patient Care, a Senior Vice President of Accountable Care Strategies, and a Chief Clinical Risk Manager.
- Address capital spending deferments and start to invest again, such as plans for a new ED.
- Continue work on physician culture and leadership development, extending leadership academy training to the department section chiefs.
- Renew the focus on research and education.

With Dr. Ed Murphy's vision, the clinic transformation was ignited. But many at Carilion feel that it was Agee's leadership that enabled the transformation to fully take shape and become embedded into the culture of the organization, to position it for future success. "She was a clinician. She was a nurse. She had been there," Perdue said. "And she carries that in everything that she does every day. So the culture change really started shifting when she became CEO. I think Dr. Murphy did an amazing job—we needed that direction and that sense of where we need to go and how we need to get there. And then when Nancy became CEO, she pulled it all together. She had strong relationships with the private physicians in the community. She had a lot of those hard conversations before she was the CEO, while the clinic model was growing in its maturity. But as CEO, she really then spent a lot of time with physicians talking about alignment, why [physicians] were critical to the organization, why they were critical to the communities that we served." Perdue has heard countless stories from patients and seen improved care in the community, reinforcing the move to the clinic model.

Arner considers Carilion Clinic today to be a physician group that "has hospitals as needed," rather than a hospital system that employs physicians. Agee believes the delivery model works because of the team approach to care. "We're all working towards the same goal, we're on the same page," she said. "We understand and share information. We're a very transparent organization. And it's that collaboration and devotion to our values and to our mission that make all the difference. And so I think we are well poised for the future and I really love this delivery model. It's great to have what I call shared governance across a pretty wide group of folks with a focus on physician leadership."