

Leadership in Disruptive Times: The Key to Changing Healthcare

Nancy Howell Agee

SUMMARY

Quality and safety are the top priorities of every hospital and health system. Patients put their trust in us as healthcare leaders, often in the most vulnerable moments of their lives, and we must respond with high-quality, highly reliable, and compassionate care.

Patients have the right to expect the best return for their healthcare dollars. Recognizing that expectation, progressive hospitals and health systems are embracing the move to value-based care and are enhancing affordability. The goal is to provide greater value to patients by improving quality, lowering costs, and enhancing the patient experience.

Ever-changing market forces affect how hospitals and health systems deliver care and may also affect how much they are reimbursed for services. We must stretch to transform, improve, and even redefine care delivery for all of our patients as well as our teams of caregivers and staff.

Carilion Clinic demonstrates this commitment in our continuing evolution as an integrated delivery system, along with our participation in new national collaborations to improve affordability and advance innovation. We are catalysts for change in a sector that is ripe for it.

The summer of 1950 was a scorcher in Roanoke, Virginia. Power surges were regular occurrences; electrical outages were more than an annoyance—at the height of the polio epidemic, they were life threatening. When the lights flickered out, Memorial and Crippled Children's Hospital employees—from nurses to cooks,

physicians to orderlies, and housekeepers to secretaries—rushed to the polio ward to pump iron lungs by hand until the power returned.

This little hospital on a hill, which was opened in 1900 and later grew into the flagship hospital of today's Carilion Clinic, could reasonably accommodate 40 polio

Nancy Howell Agee is president and CEO of Carilion Clinic in Roanoke, Virginia, and was the 2018 chair of the American Hospital Association's board of trustees.

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patients, but in 1950 it treated an estimated 450. Patients in iron lungs lined the corridors. Physical therapists worked with patients around the clock. Student nurses spent nights rocking the beds of patients struggling to breathe.

Delivering healthcare is always complex, and leadership in challenging times requires ingenuity and commitment. During the polio epidemic, leadership arose from all corners of Roanoke's hospital and beyond. Today, the crises we face may be subtler and seem more intractable—yet they still call for bold leadership.

Healthcare is changing rapidly. Payment structures are shifting from rewarding volume to rewarding value. Trends such as the rise of consumerism and the new digital economy are forcing changes in healthcare delivery and provider-patient interaction. These disruptions can prove challenging for leaders of hospitals and health systems, and yet I believe we can generate our own disruptions with creative problem-solving and innovation to support our patients and our staff.

Disruptive Innovations: Change Happens

Massive transformations are making healthcare ripe for change as new entrants from both inside and outside the sector look for new ways to deliver services and even new services to deliver. Consumer tech companies and consumer retailers are entering the healthcare arena. Within healthcare, vertical integrators are merging with or acquiring corporations and organizations under one corporate umbrella. Adding to the dynamics, many of the new market entrants are also seeking vertical integration.

New market entrants are not necessarily in the game to control costs, expand access, or improve quality. Yet, if they can achieve any or all of those three objectives, their

owners, shareholders, and investors will benefit financially in a field that represents nearly 20 percent of our country's gross domestic product. Vertical integrators can scale and reduce their operating expenses, eliminate the transactional costs of doing business with other healthcare sectors, improve profitability, and protect themselves from new market forces.

Meanwhile, health insurers are buying physician practices; drugstore chains are establishing in-store clinics and merging with health insurers. The bottom line? The insurers are looking to control both the financing *and* delivery of primary care services. They can steer enrollees to their own sites of care and set prices for visits substantially lower than what enrollees might pay for visits to private practices or practices affiliated with hospitals and health systems.

Most market entrants and vertical integrators are targeting areas in which they believe hospitals and health systems fall short and where patients place high value: affordability, care coordination, convenience, customer service, transparency, and digital acumen for virtual care.

At the Crossroads: Hospitals Lead the Way

As new market forces affect how hospitals and health systems deliver care, they also are changing how much hospitals and health systems are reimbursed for the services they deliver. Healthcare is at a crossroads of opportunities. It is time to experiment with new delivery and financing models, take on risk, and assume greater responsibility for the health of our entire populations. We as leaders must develop and implement new technologies to drive the next phase of precision medicine, and we must collaborate with community stakeholders to address the social determinants of health that prevent too

many people from reaching optimal health and wellness.

We urgently need to find new ways to deliver care that provides value and is affordable. More than half of Americans say that medical costs are a hardship (Yabroff, Zhao, Han, and Zheng 2019), 29 percent cut pills in half or do not fill prescriptions because of costs (Kaiser Family Foundation 2019), and nearly half report that they or their loved ones have delayed needed care because of costs (Kirzinger, Muñana, Wu, and Brodie 2019).

Hospitals and health systems are not the only stakeholders when it comes to affordability, of course, and we cannot fix all of the issues on our own. However, we can be catalysts by ensuring healthcare quality; promoting affordability; and collaborating with consumers, insurers, vendors, employers, elected officials, drug and device makers, and certainly patients.

At Carilion Clinic, we are responding to the national forces and local dynamics that shape our environment and the communities we serve. We are undaunted, as we have a history of overcoming adversity and being agile in responding to change.

Carilion's Journey

Carilion began more than a century ago, when our flagship hospital, Roanoke Memorial, opened its doors. Over the decades, our hospital has evolved dramatically, expanding and acquiring other area hospitals and primary care physician groups into a network that in the early 1990s became Carilion Health System. By the early 2000s, Carilion, like many other health institutions nationwide—and, indeed, the entire US healthcare system—found itself at a critical juncture. Medicare reimbursements were falling. Although not in immediate financial jeopardy, we saw the writing on the wall.

As the system's chief operating officer at the time, I was charged with leading a dramatic transformation.

Embracing Change

Change is disruptive, particularly on the scale we envisioned for Carilion. Our leadership and board tried to be deliberate and methodical in our planning.

We considered selling to a larger system. Although many of us thought that would be the smartest course of action, we all knew a change in ownership would have implications well beyond healthcare, as we were also the region's largest employer. Our board of directors issued three clear mandates: (1) remain not-for-profit, (2) provide Virginia with quality medical care, and (3) retain Carilion's headquarters in Roanoke. Beyond that, almost everything was on the table. We thought long and hard about what the organization should look like going forward and asked ourselves how it would be sustainable and what models we should consider.

The more we explored, the more we liked the "clinic" model built by such esteemed institutions as the Mayo Clinic and the Cleveland Clinic. Among the defining characteristics of these institutions was excellent primary care for local communities supported by nationally renowned specialists. The best of these clinic systems emphasized physician-led, integrated care—promoting seamless process and communication as patients moved from primary care to specialists and back.

We decided that reorganizing as an integrated delivery system would be the best road to take. Becoming Carilion Clinic required changes to our operating structure, including a clear role for physician leaders and physician employment. This structure was an unfamiliar one and often

misunderstood by people in our region. Many physicians—including a large radiology group—left. Other physicians, critical of “corporate medicine,” organized to halt our plans, attracting national media attention.

We spent hundreds of hours talking about the issues with physicians and community leaders. We modified our plans in response to their concerns and ultimately moved forward with the strong support of the Carilion board.

Building a New School

To fulfill the promise of the clinic model, we needed to expand primary care and gain a rapid influx of national-caliber specialists and subspecialists. Attracting them was challenging because we lacked a formal medical school. For years, we had talked about starting our own medical school. We already had a long history of graduate medical education and provider core rotations with the University of Virginia. Our CEO and the president of neighboring Virginia Tech met for dinner and realized a shared dream to create a new medical school. My CEO then handed the job to me. “How hard can it be?” he asked, with a chuckle.

The answer was “Hard, indeed!”—but not impossible. We had a crucial ally in Virginia Tech, which had been looking to advance its research mission. From our shared vision emerged plans for a public–private partnership that would become the Virginia Tech Carilion (VTC) School of Medicine and Research Institute.

Melding a large public university and a private health system led to obstacles along the way. Both organizations had smart, caring people doing good work. Yet we had to bridge two different cultures. We were not used to the processes a state institution has

to follow, and the university had no experience with patient care and medical education. We learned together.

The partnership launched publicly in 2007 with a \$70 million commitment from Carilion and Virginia Tech; in May 2008, the state appropriated \$59 million to help finance the school and affiliated research institute. The school opened in 2010 and quickly became a sought-after destination. In a recent class, more than 4,000 students applied for 42 spots. To complete our vision, the medical school was fully integrated into Virginia Tech as the university’s ninth college in 2018.

The research enterprise has achieved similar success. The Fralin Biomedical Research Institute at VTC (formerly the VTC Research Institute, renamed in recognition of a \$50 million gift from Heywood and Cynthia Fralin and the Horace G. Fralin Charitable Trust) concentrates primarily on neuroscience and cardiovascular science, infectious disease and immunity, metabolism and obesity, and biomaterials and body–device interfaces. Collaborations between physicians and researchers are helping to translate research findings more quickly into clinical care that benefits patients. Notably, one collaboration has earned a “Breakthrough Device Designation” from the US Food and Drug Administration, for a portable test to diagnose traumatic brain injury.

Innovating Care Delivery

We believe that research can lead to better care for tomorrow. Our centralized, physician-led Clinical Advancement and Patient Safety Department continues to work toward improvements in quality, including reducing hospital-acquired infections. We also have seen significant reductions in expenses related to serious safety events. Accelerating these improvements is an integrated human

factors research team, whose contributions to advancing the quality and safety of care at Carilion have been recognized by the Centers for Disease Control and Prevention, National Institutes of Health, and National Quality Forum.

In 2008, we became an early adopter of an electronic health record (EHR) system. Today, nearly 200,000 patients can go online to view their health information, schedule appointments, request prescription refills, and communicate with their providers. And with access to millions of terabytes of patient data, our providers are able to make better-informed decisions about care, conduct research, and incorporate findings into practice. For example, we use data to predict the risk of falls and to provide advance warning when a patient's health is deteriorating.

Knowing There Is No Place Like Home

An accountable care organization since 2006, Carilion applies payment models that reward healthcare providers for keeping patients healthy. To focus on wellness, our family practices are medical homes that proactively identify gaps in care, assess health risks, and predict how involved patients are likely to be in their care. Care coordinators connect with patients who need education and coaching between appointments and tap community resources for necessities such as food, housing, and transportation. Furthermore, telemedicine extends our specialty services to practices in the rural parts of Carilion's service area, and remote monitoring helps lower the cost of care.

Such intense management is integral to Carilion's operation as a next-generation accountable care organization with both upside and downside risk. Our commitment yields benefits for patients suffering from

chronic conditions such as diabetes, hypertension, heart failure, and behavioral health issues.

Taking on Risky Business

Transforming Carilion from a collection of hospitals to an integrated care system was a risky decision for our leaders, and the risk became more evident in 2008 when the Great Recession came along. We saw downturns in our investment income and patient revenue while we were investing millions to implement our EHR, employ physicians for expanded care, appoint faculty for the medical school, and build the research institute and medical school campus.

Suddenly, we found ourselves \$40 million in the hole and with a downgraded bond rating. So now, in the middle of converting to a clinic, we also had to lead a financial turnaround. The board remained steadfast despite the red ink, and we endured four years of losses before belt-tightening (short of layoffs) enabled the return to a positive operating margin in 2013. We have had a positive operating margin every year since then, and our bond rating has rebounded. In addition, and equally important, we have gained support from our communities, our clinicians, and our patients. In the heart of a railway town, Carilion is the little engine that could.

Going From Trains to Brains

Carilion leadership is moving swiftly to implement the next phase of our vision to become one of the nation's leading academic health centers. The research institute's capacity will double with the completion of a 140,000-square-foot addition in spring 2020. We also are investing at least \$1 billion in the Roanoke region, beginning with a \$500 million expansion of our flagship hospital, Carilion Roanoke Memorial Hospital. The

recent merger of Carilion's Jefferson College of Health Sciences with Radford University will increase Radford's presence in Roanoke for additional growth.

While we work to advance science, we are also leading the transformation of our region's economy. Once heavily reliant on the railroad industry, Roanoke is now looking to biomedicine and the life sciences as a source of future prosperity. The VTC Health Sciences and Technology campus has already demonstrated its potential, making an estimated \$214 million impact in less than a decade (Rephann 2018). The region is home to nearly 300 life sciences companies with approximately 41,000 employees.

To support an entrepreneurial ecosystem, we joined Virginia Tech in creating two multimillion-dollar investment funds focused on life sciences and disruptive technologies to help turn research discoveries into real-world applications. The first, known as the VTC Innovation Fund, began in 2017 with \$15 million and provides larger investments for established, growth-stage companies. The \$7 million VTC Seed Fund, established nearly two years later, is for smaller investments in the range of \$100,000–\$150,000 for earlier-stage, higher-risk companies.

Improving Community Health

Acknowledging the great influence of its various zip codes on the overall health of a community, Carilion is diving deeply into the communities we serve with Healthy Roanoke Valley, a broad-based coalition to address social determinants of health. An early success was the Fresh Food Prescription Program, which resulted in more than 60 percent of participants losing weight and lowering their body mass index and blood sugar level. Half of participants lowered their blood pressure, too. We also introduced a successful coordination-of-care initiative

powered by lay community health workers who are trained to help patients solve complex problems such as finding housing and transportation, enrolling in insurance, and getting prescriptions or medical equipment. As a result, health status in Roanoke has improved in each of the past six years, moving up in the community health factors rankings of Virginia communities from 123rd in 2014 to 108th in 2019 (Robert Wood Johnson Foundation 2019a, 2019b). We plan to maintain that trajectory with the August 2020 opening of a pediatric clinic in an elementary school.

Carilion's response to a current epidemic—opioid addiction—is multipronged as well. Among the various tools and tactics to reduce misuse, abuse, and addiction are data dashboards that help physicians track opioid prescriptions and a state-sponsored program that certifies those with firsthand experience with addiction to work with our clinical teams to support patients' recovery efforts.

Leadership Values

From a tiny hospital on a hill to a thriving medical complex, Carilion has grown and evolved with our community by putting patients first. I witnessed the power of patient-first care when I was a teenager. After I fell while on a hike, the local emergency department doctors found no broken bones, but they did diagnose a tumor in my knee. Five surgeries and two years in a wheelchair and on crutches taught me a lot about patient values. Thankfully, my health issue proved not to be life threatening, although it *was* life changing.

My perspective broadened and deepened when I became a clinical nurse, providing care to patients. In taking on management roles, I have always held on to the memory of being a patient and a nurse. It informs everything I do as a leader. In fact, the values that guide me are Carilion's six core values:

1. **Community.** We are part of a community, working in unison with partners throughout the community—patients, families, churches, civic organizations, governments, businesses, and other leaders—to better understand and respond.
2. **Courage.** We must always do what is right for our patients without question. Courage requires knowing that there will always be detractors and challenges; the skill in leading is successfully overcoming them.
3. **Commitment.** We must be unwavering in our quest for exceptional quality and service. Our responsibility is to be intentional and thoughtful about having the best people, the best equipment, and the best technology all for one purpose: to provide quality care for those we serve.
4. **Compassion.** Putting heart into everything we do makes those in healthcare unique. Caring for others during their most vulnerable times is our job and our passion.
5. **Curiosity.** In our continuous pursuit of excellence, we strive to ask great questions and spark innovation.
6. **Collaboration.** Whether through partnerships with each other, between departments, or with organizations and individuals in the community, we weave the threads of collaboration through all that we do to fulfill our mission.

Stormy Weather

The toughest challenge I ever faced as a leader at Carilion was not the 2008 recession or the rocky transition to a new model. It came in November 1985, when the Roanoke Valley suffered the worst flooding in the region's history—and its greatest loss of life to a natural disaster.

Fast-rising water flooded the basement and the first floor of our flagship hospital, knocking out power in the 200-bed addition to a 700-bed hospital and leaving patients with no electricity for five days. Like our predecessors during that scorching-hot summer of 1950, all of us—the doctors and nurses, administrators and technicians, custodial staff and volunteers—swore we would not give up on our commitment to our patients, and we did not. We even delivered a baby by flashlight.

Sadly for me, one of those patients was my father, who was terminally ill. He passed away that first night—not because of the flood, but from cancer. I am proud to say that for those five days, despite the worst of circumstances, we ensured that all patients received the best attention. And I will always be grateful to know my dad was receiving the most compassionate care despite the circumstances.

That experience reminds me to this day that even when we face the most difficult moments of our lives—our greatest professional challenges, our greatest personal trials—the storms that batter and bruise us will eventually end. As healthcare leaders, we have the power to wait out the storm and come through stronger, wiser, and more confident than ever in our mission to provide care for all who need it. In keeping with my Southern roots, I draw from my steel magnolia leadership: strong and flexible, with a commitment to diversity, developing others, and fostering a workplace culture in which we can all thrive.

The Power of Collaboration

I have been privileged to serve as a member of the American Hospital Association (AHA) board of trustees and, in 2018, as its chair. I am proud that the AHA has been helping healthcare organizations navigate these transformative times. I know

that Carilion is just one of the thousands of healthcare providers serving patients across the United States. With a system comprising a large urban Level I trauma center, a major teaching hospital, average-sized community hospitals, and critical-access hospitals, Carilion represents a microcosm of the entire US healthcare system. Our journey is our own. Each health system's journey looks different, and yet healthcare leaders like me across the country are working to transform both health and healthcare in their communities.

In exit poll after exit poll, American voters in 2018 made it clear that healthcare is an important issue. Near the top of their list of concerns was the affordability of healthcare. We as healthcare leaders must understand and share that concern, and we must continue to redesign care and implement operational efficiencies. That is why the AHA, in 2017, launched The Value Initiative to provide educational resources to advance affordable healthcare and promote value in local communities through four specific strategies:

1. **Redesign the delivery system.** Improve the coordination of care and chronic-care management and devise more efficient ways to provide patient care.
2. **Improve quality and outcomes.** Reduce clinical and operational variation through advanced analytics and evidence-based care.
3. **Protect the institution's future effectiveness.** Develop strategies for risk management and payment reform, and advocate for less burdensome regulation, as regulation can hamper innovation.
4. **Continue to focus on operational excellence.** Find operational solutions to lower costs and improve effectiveness, so care can be better and more affordable for our patients.

Healthcare leaders are in a unique position to apply these strategies in their organizations, but we cannot do it alone. That is why collaborations such as The Value Initiative are critical. All stakeholders—hospitals and other providers, insurers, drug companies, device makers, the government, and patients—have roles to play. The creation of The Value Initiative was quickly followed by the launch in 2018 of the AHA Center for Health Innovation, an engine to power market intelligence and information on emerging trends in healthcare, as well as to provide resources and learning opportunities to help healthcare organizations prepare for tomorrow.

Advances in technology and digitization, rising consumer needs, competitive pressures, and new players entering the field are testing us in ways we have never been tested. Fortunately, we can team up in new and different ways, share ideas that work, and help each other transform so that every patient benefits. We can be the disruptors instead of merely the ones disrupted.

Conclusion

Innovation is in the DNA of every healthcare leader. As innovators, we can build a future in which care is more convenient, easier to navigate, and more focused on health and well-being. We are in the position to improve affordability and increase value for our patients and communities. That reality is within our reach.

I see many opportunities ahead to improve care and health, and that makes me extremely optimistic. In all corners of our country, hospitals and health systems are open 24 hours a day, 7 days a week, 365 days a year. Our clinicians are standing ready. Our lab technicians, therapists, environmental service employees, volunteers, operators, and so many more are working together with

the same guiding passion: to offer care and comfort, to be stewards of excellence, and to be champions for good health.

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