Is There an Avatar in the House? Changing the DNA of Healthcare in the Age of Artificial Intelligence

Stephen K. Klasko, M.D., M.B.A., President and CEO, Thomas Jefferson University and Jefferson Health

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Today's Imperative: To Differentiate One's Self by Becoming Consumer-Centric

Healthcare is in desperate need of a makeover, with a focus on becoming more consumer-centric. As Amazon CEO Jeff Bezos notes, "being non-consumer-centric is the biggest threat to any business, including healthcare." Recent history makes the need to focus on the consumer quite clear, with multiple examples of companies losing out to more consumer-focused competition, including Blockbuster (to Netflix and other streaming services), the taxi industry (to Uber, Lyft, and other ride-sharing companies), and countless retail stores with a physical presence (to Amazon and other online retailers).

Consumers expect no less from their healthcare providers than they do from other industries. Nearly three-quarters (71 percent) of consumers expect to be able to shop for providers by comparing rates and then schedule an appointment online; roughly two-thirds expect social networking opportunities to discuss healthcare issues and compare providers; more than 90 percent expect two-way electronic communication with providers; 83 percent expect to be able to access all patient information online (as they do with banks); and 78 percent expect

total access to family members' inpatient charts and to be able to participate in inpatient rounds, either in-person or virtually.

In short, as with most other things in their lives, patients do not want to wait for information and do not want paternalism. They want to be active participants in partnership with their providers. The biggest threat to providers, moreover, comes from joint ventures such as CVS Health/Aetna and Walmart/Humana that are creating new, consumer-friendly "front doors" to medicine. Provider organizations that do not respond to these threats risk becoming "commoditized" suppliers of readily available inpatient beds. In fact, a ratings analyst recently downgraded the entire non-profit healthcare sector due to projections for flat revenues and rising costs, combined with his belief that the industry is not flexible enough to react to such trends in a timely manner.

> "If I did everything perfectly around value, I would be bankrupt. We operate in a bifurcated system and focus our value efforts on at-risk patients and captive populations, such as our own employees. That said, there will inevitably be disruptions and pain in moving from here to there. But the answer isn't to ignore it."
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> *—Stephen K. Klasko, M.D., M.B.A.*

Consumer-Focused Differentiation at Jefferson Health

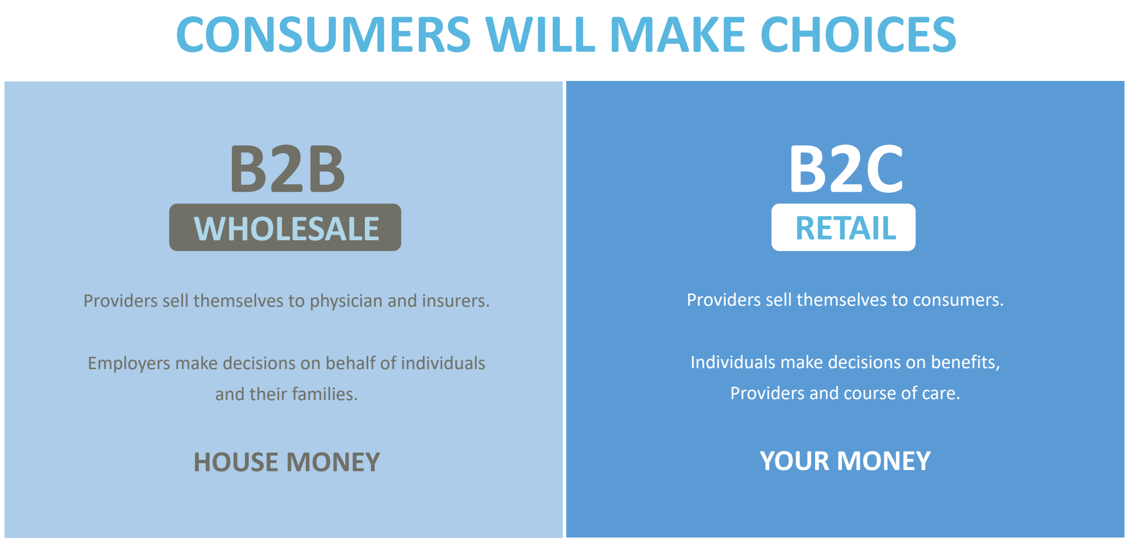
The differentiation journey at Jefferson Health began in 2013. At the time, Jefferson had two hospitals in downtown Philadelphia, three boards, six colleges, 12,000 employees, and approximately $1.5 billion in revenues. The organizational culture was characterized by fragmentation and a silo mentality. The new CEO (Dr. Klasko) reported to multiple bosses, and each piece of the organization had its own email and payroll systems. At his first faculty meeting, Dr. Klasko quickly realized that each major silo (the hospitals, the colleges, and the clinicians) operated independently and often in conflict with one another.

As a first step in the transformation, McKinsey & Company conducted an analysis highlighting the shift from inpatient to ambulatory and post-acute care settings. McKinsey predicted a 4 percent annual decline in inpatient volume, a figure that caught the Jefferson board by surprise. At this point, Dr. Klasko proposed to the board that Jefferson commit to pursuing two key strategies, outlined below:

- ✔ **Differentiation**: Jefferson would differentiate itself from the other six academic medical centers (AMCs) in Philadelphia.
- ✔ **Proactive jump to the future**: Jefferson would figure out what will be obvious a decade from now and commit to doing it today.

The goal was to get a 195-year-old AMC to start acting like a start-up company, transitioning from a business-to-business (B2B) model in which providers sell themselves to physicians and insurers, to a business-to-consumer (B2C) model in which providers sell themselves to consumers (as depicted in **Exhibit 1**).

Exhibit 1: The Transition from a B2B Model to a B2C Model



The first step involved a change in Jefferson's mission and vision statements to reflect the new focus. The new mission statement was simplified to read: "We improve lives," while the new vision statement read as follows: "We will reimagine healthcare, education, and discovery to create unparalleled value and to be the most trusted healthcare partner." Concomitant with that change was an expansion in the "pillars" that define Jefferson, from the past model that focused on two pillars (academic and clinical) to a new model that adds two more: philanthropy and innovation. In particular, the goal was to harness innovation to master now what will be obvious in 10 years: bending the cost, access, patient experience, and quality curve; turning population health from philosophy to everyday practice; and moving from volume to value (even while still getting paid for volume in some cases). To that end, Jefferson embarked on four distinct strategies to differentiate itself from the competition.

Differentiation #1: Healthcare with No Address

Just as they shop and bank from the comfort of their homes, consumers want to get their healthcare digitally and with no fixed address. To that end, Jefferson has launched a variety of programs:

✔ **Virtual visits**: JeffConnect provides easy, convenient access to a physician through virtual appointments. This program quickly led to an 18 percent increase in new patient referrals, with the largest gains occurring among younger patients. To get physicians on board, Jefferson changed the way it compensates individual clinicians, with 20 percent potential upside to those who embrace telehealth and 10 percent potential downside for those who do not.

- ✔ **Doctor-matching service**: Jefferson brought in technology experts from Silicon Valley to create a doctor-matching service. Consumers input certain parameters they want in a doctor and get matched to someone who appears to be a good fit. While older doctors often do not participate, younger ones generally like being part of the service.
- ✔ **Virtual inpatient rounds**: Family members can participate virtually in inpatient rounds, enabling them to speak with physicians and nurses about various issues, such as discharge planning. The same service is used to update family members on their loved one's well-being immediately after surgery. This program has resulted in significant improvements in patient satisfaction. The technology to provide it is readily available. The main barrier relates to working through HIPAA (Health Insurance Portability and Accountability Act) regulations.
- ✔ **Preventive/screening appointment reminders**: Jefferson automatically sends reminders to a patient's smartphone or watch when it is time to schedule an appointment, such as a colonoscopy or mammogram. Such reminders greatly increase the likelihood that the patient makes the appointment and ultimately receives the needed service.

As part of this effort, Jefferson has changed the way it markets to consumers. Traditional approaches, such as television and billboard advertising, have been abandoned because they no longer connect with patients. The new approach segments consumers and then targets identified cohorts in different ways. The goal is to give consumers the information they need to make good decisions about their health, and then help them connect with the healthcare community. Once they connect, Jefferson seeks to inspire long-term loyalty by providing true value for the money, including a single point of contact and a seamless experience across the continuum.

Over the next 10 years, Jefferson is preparing for even more dramatic transformations in the provision of virtual care, driven by deep learning, machine cognition, and artificial intelligence (AI). By 2020, Jefferson expects that a quarter of hospitals with over $1 billion in revenues will provide real-time genomic-based decision support at the time a prescription is written. Just a few years later (2022), 20 percent of the population with chronic conditions will rely on virtual health assistants to promote wellness and ongoing care management. By 2025, over a third (35 percent) of all care will be delivered virtually, and by 2029, most healthcare interactions will be virtual or remote, and the majority of these will involve AI or machine cognition applications.

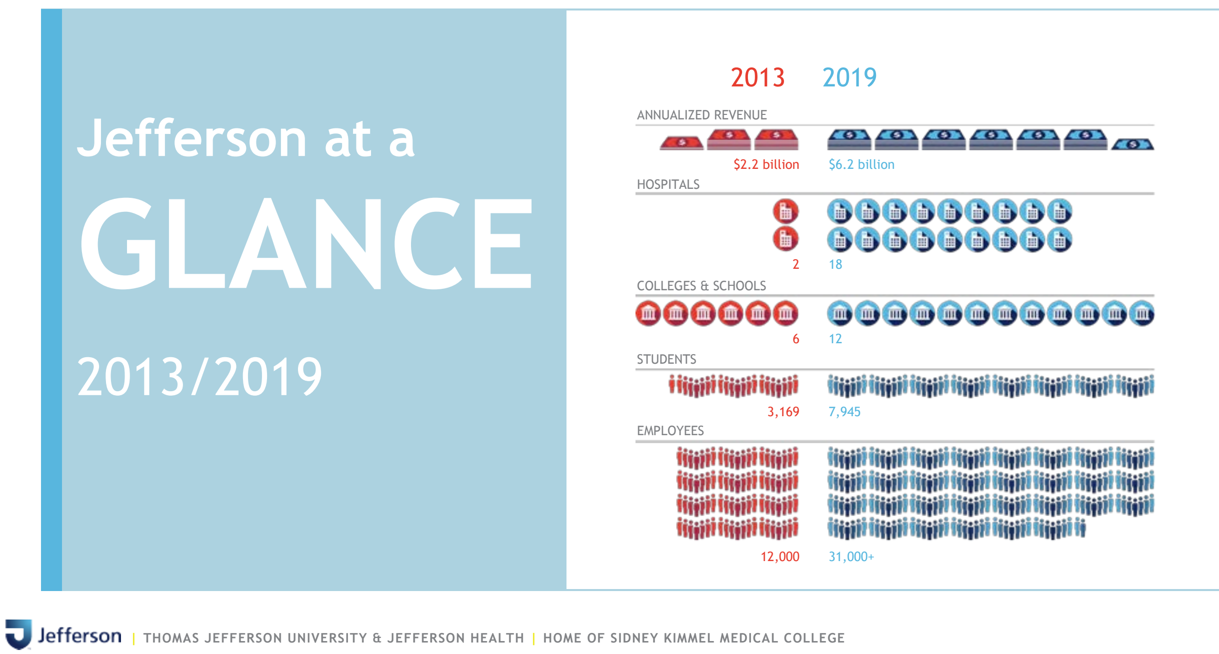
Differentiation #2: Scale through the Hub-and-Hub Model

Unlike other AMCs, Jefferson is not pursuing a hub-and-spoke model where the goal is to funnel patients from outlying communities to a tertiary/quaternary hub in the city. Rather, Jefferson is employing a hub-and-hub model with the goal of keeping patients in their local communities. To that end, Jefferson has completed five mergers and acquisitions with community hospitals in the last four years. Rather than offering money, Jefferson uses governance as a currency, offering the acquired entities seats on the Jefferson board. Each acquired entity initially gets nine board seats, but over time that number is reduced to make the board a manageable size. More importantly, the board adopts a community mindset and single-board mentality.

Individual entities have no reserve powers and receive no capital commitments, while practicing physicians cannot serve on the parent board.

As shown in **Exhibit 2**, Jefferson is a very different place than it was just six years ago. Today it has more than 40 outpatient and urgent care locations that handle 3.8 million visits annually. It operates 12 freestanding ambulatory surgery centers and has the largest primary care footprint and largest number of attributed lives in the market.

Exhibit 2: Jefferson at a Glance: 2013–2019



Differentiation #3: Culture Change

Leaders often spend time trying to influence the attitudes of people who will never change. As with most organizations, about 20 percent of Jefferson physicians understand the need for dramatic change and hence follow the directives of senior leaders. Roughly 15 percent will never "get it," while 65 percent will get it eventually with enough prodding and explanation. Most leaders, however, spend about 40 percent of their time with those who already get it and 45 percent of their time with those who never will, leaving only 15 percent for the "silent majority" that need convincing. Jefferson has dramatically reallocated where leaders spend time, with the focus now on the silent majority and virtually no time allocated to the "lost causes." This change has allowed Jefferson to bring many of the silent majority into the "get-it" camp.

In addition to this shift in focus, Jefferson also created several leadership development programs that play a critical role in spearheading culture change throughout the organization:

- ✔ **Jefferson's Onboarding and Leadership Transformation (JOLT) Institute**: Each year, 40 emerging leaders complete the nine-month JOLT program, which integrates classroom instruction, a project/sketch assignment, and executive coaching. Selected candidates go through an application process and must be sponsored and receive executive approval to participate. JOLT graduates have been found to have a 325 percent improvement in their ability to handle difficult issues and situations.

- ✔ **Jefferson Leadership Institute:** This initiative "reprograms" physicians by focusing on competency development and improving readiness for leadership roles through specially designed projects and participant and sponsor feedback. The goal is to change longstanding belief systems, overcome perceived limitations and selection/education biases, reduce resistance to change, and avoid burnout. More than half (54 percent) of physicians report at least one symptom of burnout and most burned-out physicians remain disengaged from the organization. By contrast, capable, engaged physicians tend to be more productive and feel they can make a difference.

Differentiation #4: Going "All-In" on Innovation

Jefferson's leaders have a choice when it comes to pursuing innovation. The first is to pursue incremental improvement in its clinical and academic pillars, supported by philanthropy, and to pursue innovation on an opportunistic basis. The second is to make innovation through strategic partnerships the core of the health system's strategic vision and its main differentiator from the competition. Jefferson's leaders decidedly chose this second approach, and the management team that oversees the clinical and academic enterprises have been expressly charged with making this vision a reality.

To date, Jefferson has embarked on many strategic partnerships. In aggregate, they account for 25 to 30 percent of Jefferson's entire profits, making them critical to the financial health and vitality of the organization. These profits stem from Jefferson's insistence on taking equity stakes in new projects, not just serving as a pilot site for others. A few examples of these innovative partnerships are described below:

- ✔ **JeffDesign**: Jefferson is the first medical school to integrate design thinking into its curriculum. As part of this effort, Jefferson launched a mobile trailer that goes into neighborhoods to promote community health.
- ✔ **DICE**: Jefferson hired 40 people to join an existing team of over 150 that creates applications designed to solve key problems. This program has generated a return on investment (ROI) that exceeds 10 to one. Benefits include over 10,000 hours saved for physicians through online training, over $1 million saved in ED staffing costs, and over $7.5 million saved through online staff training.
- ✔ **Livongo**: This consumer digital health company focuses on the treatment of chronic diseases. Initial results have been quite positive with diabetes care, including a 28 percent reduction in ED visits and a 39 percent reduction in inpatient admissions.
- ✔ **Digitally powered transportation services**: Through this joint venture, Jefferson brings JeffConnect and other patient services into the patient homes through the real-time redirection and sourcing of emergency medical technicians and other transportation resources.
- ✔ **High-minded medical education**: In 2019, most medical school candidates are still chosen based on their grade point average, standardized test scores, and

organic chemistry grades. It is no surprise, therefore, that people complain about physicians who are not empathetic, communicative, or creative. Jefferson changed this selection process, choosing applicants that meet minimum academic requirements based on their creativity and ability to communicate and be empathetic, and then teaching them with a redesigned curriculum that further develops these skills. The goal is to teach health professionals to be ready for what awaits them in 10 years.

✔ **Computer simulations**: In partnership with the airline industry, Jefferson created procedure rehearsal studios that allow doctors to learn to perform complicated surgeries through simulations that closely mirror real life. This approach ends the "see-one, do-one, teach-one" mentality that remains dominant throughout the country. Just as a pilot cannot fly a plane until proving the ability to do so in a simulator, physicians should not perform surgery until perfecting their skills somewhere other than on a live patient.