

PATIENT EXPERIENCE RX:
RELATIONSHIP-CENTERED CARE (RCC) FOR HIGH-VALUE HEALTH SYSTEMS

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ABSTRACT

PATIENT EXPERIENCE RX: RELATIONSHIP-CENTERED CARE (RCC) FOR HIGH-VALUE HEALTH SYSTEMS

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The United States spends more than any other developed country on healthcare (17.7% of GDP), but ranks 27th in the world for health outcomes. Research in recent years has identified a lack of actionable operations plans and a poor understanding of human behavior within co-produced health environments as two key barriers to improvement. This dissertation begins to address those barriers by exploring the application of service sciences in health and wellness operations. The research strategy focused on three key elements of a health service systems theory known as Relationship-Centered Care (RCC). Those elements were: 1) the relationship of the patient to themselves and the consumption of health as an experience, 2) the relationship of the patient to the healthcare organization in the form of health experience design, and 3) the relationship of the organization to itself as it relates to health organization identity, behavior, and ability to execute on care delivery goals. Three field sites were chosen to represent the full spectrum of the healthcare-hospitality operations continuum: The University of Texas at Austin's UT Health Austin clinics, Ronald McDonald House New York, and Canyon Ranch Wellness Resort. Mixed methods were used including regression, generalized estimating equations (GEE), interviews, observation, and archival data analysis. The results of these studies identified hindrances to actionable operations plans such as poor construct validity in patient experience and a lack of industry guidelines at the intersection of healthcare and hospitality. They also validated the need for a line of inquiry into human behavior within co-produced health

environments by confirming differences in wellness versus cure segments and highlighting the potential for behavioral science to drive patient engagement, better health outcomes, and high-value health systems.

BIOGRAPHICAL SKETCH

The author, Alexis Palmer Strong, was born and raised in Los Angeles, CA. She earned a B.A. in Healthcare Policy from Duke University and a Masters of Management in Hospitality from Cornell University. Alexis then spent several years in hospitality operations bringing theory to practice with The Ritz-Carlton Hotel Company, the hotel valuation team at Cushman & Wakefield, and an entrepreneurial restaurant group aiming to make customer service its value proposition. Alexis then took her hospitality perspective back to healthcare and spent three years with PwC's Health Industries Advisory practice focusing on customer experience strategies and a year with Docent Health standing up patient-centered care service offerings in hospitals.

In the fall of 2017, Alexis returned to Cornell University as a doctoral student to bring her experience and curiosity to the Cornell Institute for Healthy Futures (CIHF), what is believed to be the first academic center to combine the study of hospitality, healthcare, and design through a partnership between the School of Hotel Administration, the Sloan Program in Healthcare Management, and the Department of Design and Environmental Analysis. Alexis's research focused on healthcare consumerism, health experience and service design, and the process by which we can close the "knowing-doing gap" (Pfeffer & Sutton, 2000) in human-centered design systems.

ACKNOWLEDGEMENTS

Much like raising a child, it takes a village to raise a PhD. I am both amazed and proud to be writing the acknowledgements section for my complete dissertation, but mostly I am grateful. This moment would not have been possible without the vast array of incredible humans who expressed their support in gestures large and small. Therefore, to me, this is the most important section of this dissertation.

First and foremost, I would like to thank my academic family at Cornell. After nine years in the industry, I was inspired to return to academia for one reason: the Cornell Institute for Healthy Futures (CIHF). CIHF, which is the first academic center to combine hospitality, health policy, and design, provided a unique opportunity to explore my passion for patient experience within the transdisciplinary environment I thought was necessary to achieve innovative thinking. It was the only institute of its kind and, to me, it demonstrated Cornell's belief in the value of research in this space. That said, my arrival to campus was the work of several key individuals who deserve recognition by name: Professor Robert Kwortnik, Professor Rohit Verma, and Professor Linda Canina. Professor Robert Kwortnik spent several hours on the phone with me in the years prior to my arrival, patiently explaining PhD programs and offering an honest assessment of the highs and lows of PhD life. It was his advice to find a topic about which I was passionate and the university that does that best that ironically led me back to Cornell. CIHF Executive Director (and later my committee chair), Professor Rohit Verma took my inquisitive phone calls and responded to my overeager emails asking about the mission of CIHF and how I could get involved. His invitation to come speak at CIHF's first summit in early 2017 solidified my decision to apply to the PhD program. Then Director of Graduate Studies, Professor Linda Canina took a chance on me. She gave me the vote of confidence that my time in the industry

would be an asset to my research not a liability and she believed in the value I would add to the program. The support of these three individuals was invaluable and it was quickly followed by the support a group of Cornell-affiliated colleagues who were enthusiastic and consistent members of my cheering squad: Lu Kong, Mike Dixon, Matt Walsman, Liana Victorino, Brooke Hollis, Brenda Smith, Nikki Cerra, Ellie Valenzuela-Mendoza, Derick Simmons, Sandra Lee, Hilary Diekow, Angela Bourne, Brad Schmidt, Elizabeth Martyn, and Tiffany Darabi. Two of those Cornell-affiliated colleagues signed on as my Research Assistants (RAs): Derick Simmons and Sandra Lee. I could not have asked for two more supportive, flexible, thoughtful, engaged, and hardworking RAs. I owe them so much.

The true heroes of my Cornell academic family, however, are the three members of my committee: Professor Rohit Verma (Chair), Professor Mardelle McCuskey Shepley, and Professor Sean Nicholson. I always joke that Professor Rohit Verma (now Provost, VinUniversity) is “the yin to my yang.” Professor Verma chaired my committee and therefore steered the ship while also providing the hospitality expertise, the service methods perspective, and a much-needed sense of calm. Without Professor Verma, I would not have explored so many quantitative methods, pivoted so effectively in the wake of COVID, or learned to find such peace in the process. Professor Verma is a mentor and a friend. I was honored to be his student and I am grateful for his guidance.

Professor Mardelle McCuskey Shepley served as a member of my committee while also serving as the Chair of the Department of Design + Environmental Analysis and the current Executive Director of CIHF. Professor Shepley’s consistent and active engagement in my work taught me how to harness the curiosity of a design mindset, appreciate the rigor and unique value

of qualitative methods, and be humble and respectful when it comes to the sanctity of knowledge creation. Simply put, she made me a better researcher.

Professor Sean Nicholson served as a member of my committee while also serving as the Director of the Sloan Program in Health Administration and a Research Associate at the National Bureau of Economic Research. Professor Nicholson anchored the healthcare content, correctly argued for the inclusion of a service systems business value study to gain traction in the industry, and helped me wrap my head around the impact of coronavirus on the future of healthcare in the U.S. when it felt as if the pandemic had just imploded my industry of interest. Much of our brainstorming was left on the cutting room floor when papers went a different direction or research projects got shelved due to the pandemic, but Professor Nicholson expanded my thinking and his influence will impact my work for years to come.

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human factors perspective to my work. Her research on patient psychology, behavior, and emotions, changed the way I thought about my work and conducted my research. I hold these three researchers close to my heart, but there were so many inspirational scholars beyond them as well. Needless to say, I stand on the shoulders of giants and I am indebted to them for their work.

None of this would have been possible without my three industry research partners: The Design Institute for Health/UT Health Austin Clinics at the University of Texas at Austin, Ronald McDonald House New York (RMHNY), and Canyon Ranch. Stacey Chang, the Executive Director at the Design Institute for Health, was one of the earliest champions of my work. He dedicated several hours that he did not have to help me hone my theoretical frameworks and then he offered to give me access to the UT Health Austin clinics to test those frameworks, observe, and analyze. Dr. Ruth Browne, President and CEO of RMHNY, invited my research team to stay at RMH in New York City to spend time with families and employees, exploring the operation of an organization at the intersection of healthcare and hospitality. When New York City became the U.S. epicenter of COVID-19, Dr. Browne recognized both the organizational learning opportunity as well as the research opportunity and invited us back to conduct (remote) organizational research amidst the biggest health crisis in over a century. Dr. Aras Erekul, then Corporate Director of Experience Development at Canyon Ranch, played a critical role in refining my research strategy, maintaining research momentum, and introducing my work to other industry partners who could offer new perspectives. Dr. Erekul continues to believe in and champion my work and I am grateful. The support of these three organizations cannot be overstated and several individuals within those organizations deserve personal recognition: Adam Zeiner (Design Institute for Health), Marian Gryzlo (RMHNY), Sharon

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Last but not least, I feel immense gratitude for my family, friends, and personal support network. Earning a PhD is amazing; however, the day-to-day process is often messy, requires a lot of isolation, and frequently inspires sudden outbursts of emotion. “My people” deserve a medal. First on that list is my fiancé, Lucas Artusi. He lived much of the last year knee-deep in academic journal articles and relegated to the kitchen so that I could write in the office in silence. He happily kept our house afloat - cooking, cleaning, feeding and bathing the dog - and even more happily worked through research concepts and frameworks with me on the white board he installed in the office. He wiped away tears when I stumbled, popped champagne when I triumphed, and plied me with egg sandwiches, coffee, and hugs for all the stages in between. I don’t know what I did to deserve him, but I feel both lucky and grateful for him every day. Second on that list, is our Golden Retriever, Hallie. Hallie probably earned a PhD by osmosis given her proclivity for napping on my paperwork, but I swear the routine of taking her for daily walks and watching her delight in simple pleasures kept me sane. Third, are my families. My biological family (my dad, George Strong; my mom, Annsley Strong; my brother, Geordy Strong; my sister, Courtney Thomas; my sister, Meredith White; their spouses and their kids) was an incredible source of good genes, support, and inspiration. My dad gave me my nerdy academic genes and my work ethic. My mom gave me my love of healthcare and my unabashed curiosity. My siblings gave me the courage to try - as the youngest, I’ve watched them blaze trails for years and their courage is contagious. My future in-laws (my future father-in-law, Dan Artusi; my future mother-in-law, Mayra Artusi; my future sister-in-law, Celina Artusi; and my future brother-in-law, Tye Ripma) expressed their love and support in a way that would never

have you believe they were either “future” or “in-laws.” This incredible family supported me and believed in me like I had always been one of their own. Their pride buoyed me to the end. My chosen family (my friends Jeni Wang, Teresa Carluccio, Ally Kiel, Ashley Miller, Jenny Weatherholtz, and Michal Jutan) offered humor, consistent support, and a critical dose of human connection when COVID made me feel as if I was truly stranded on a research island. Thank you. The last person I want to publicly recognize is my fifth grade teacher, Mrs. Beverly Jacobson. Mrs. Jacobson was the first teacher who saw potential in me and taught me how to work hard to use it. She made me believe that this kind of achievement was possible and she continues to send me texts filled with loving emojis and reminder notes that I am “a smart cookie.” For everyone who has had that person in their lives, you know that really, this all started there.

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INTRODUCTION & THEORETICAL BACKGROUND

**THE SERVICE SIDE OF HEALTH:
THE APPLICATION OF SERVICE SYSTEMS THEORY
IN THE AGE OF U.S. HEALTHCARE CRISIS**

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Cornell University 2021

Introduction

The United States healthcare system is in a state of crisis. We spend 17.7% of the nation's Gross Domestic Product (GDP) (Center for Medicare & Medicaid Services [CMS], 2018) on healthcare to elicit a ranking of 27th in the world in health outcomes (Lim, Updike, Kaldjian, Barber, Cowling, York, Friedman, Xu, Whisnant, Taylor, Leever, Roman, Bryant, Dieleman, Gakidou, & Murray, 2018). Basic quality indicators such as overall mortality, premature and preventable death, amenable mortality and disease burden indicate that our outcomes are below that of most other Organisation for Economic Co-operation and Development (OECD) countries (Cox & Gonzales, 2015, OECD, 2019; Sawyer & McDermott, 2019). Our legacy pay-for-performance model has long-since incentivized an increase in the quantity of healthcare while negating improvement in quality (Rosenthal, 2017).

In 2010, the Patient Protection and Affordable Care Act (PPACA or ACA) became a seminal piece of legislation aimed at changing the pay-for-performance structure and, with it, the quantity over quality paradigm. As part of this legislation, Value-Based Care (VBC) initiatives began to financially incentivize improvement in clinical outcomes and patients' perceptions of care. It was the beginning of a reorientation to quality over quantity of care and it was the first formal recognition of the role of patient as co-producer. However, progress has been slow (Esposito, Selker, & Salem, 2015, Manchikanti, Helm, Benjamin, & Hirsch, 2017, Sanger-Katz, 2017). The top-down policy approach was not paired with a complementary bottom-up operations approach, leaving a knowing-doing gap (Pfeffer & Sutton, 2000) in the quest for better healthcare delivery models.

From a bottom-up operations perspective, challenges exist on both the supply and demand sides of healthcare delivery. On the supply side, quality outcomes are currently

undermined by physician shortages and lack of physician wellness. By 2029, more than 40% of the physician workforce will be at least 65 and on the verge of retirement (Association of American Medical Colleges, 2019). The U.S. population, however, continues to grow and is anticipated to reach 350 million by 2032 (Association of American Medical Colleges, 2019). Furthermore, primary care, or those healthcare services aimed at “addressing the large majority of personal health care needs” (Institute of Medicine, 1996) has lost favor with medical students in place of higher-paying specialties such as neurology, orthopedics, and thoracics. Between 2005 and 2015, the density of primary care physicians to population size decreased from 46.6 per 100,000 to 41.4 per 100,000 with the greatest impact felt in rural areas (Basu, Berkowitz, Phillips, Bitton, Landon, & Phillips, 2019). Rural counties experienced a -7.0 per 100,000 physician to population decrease versus the -2.6 per 100,000 decrease in urban counties and in 2015, 296 counties did not have a primary care physician at all. (Basu, Berkowitz, Phillips, Bitton, Landon, & Phillips, 2019). In addition, the United States is experiencing record high physician burnout rates. In a 2019 report, 44% of physicians reported feelings of overwhelm, exhaustion, cynicism, or other mental health problems (Kane, 2019) due to long hours and burdensome administrative requirements.

On the demand side, quality outcomes are challenged by a changing patient population and their associated health issues. We are no longer dying from the acute diseases and biological failings that originally plagued us at the birth of the healthcare system in the early 20th Century (Centers for Disease Control and Prevention, 2018). Now, more often than not, we are dying from environmental and lifestyle causes that are chronic and complex. In 1900, the leading causes of death were pneumonia/influenza, tuberculosis, and gastrointestinal infections (Jones, Podolsk, & Greene, 2012). In 2016, the leading causes of death were heart disease, cancer, and

accidents, followed closely by diabetes, kidney disease, and suicide (Centers for Disease Control and Prevention, 2017). Nearly half of all Americans suffer from at least one chronic disease (133 million) (Raghupathi & Raghupathi, 2018) and the age-adjusted death rate for unintentional injuries including drug overdoses and suicide increased an average of 7.2% for males and 5.0% for females from 2013 to 2017 alone (CDC, 2017). Researchers estimate that 80% of our health outcomes are now a result of lifestyle choices we make outside of a provider setting (Hood, Gennuso, Swain, & Catlin, 2016), requiring a more comprehensive definition of health and more sustained relationships with providers to support health behavior change and a shift from cure to care (McColl-Kennedy, Snyder, Elg, Witell, Helkkula, Hogan, & Anderson, 2016).

As such, the foundational pillars of the U.S. healthcare delivery system – acute care, inpatient treatment, and paternalistic power dynamics – are eroding. What is left behind is an industry that is burning out trying to meet the demands of new policies and new patient profiles using an old operating system. This research takes a fresh look at healthcare as a service industry and, more importantly, as a co-produced experience to uncover new insights about the bottom-up operating model that is required to support top-down VBC policies. Cross-disciplinary research included inputs from hospitality and services marketing, healthcare and service operations, systems thinking, design, organizational and consumer behavior, sociology, psychology, and behavioral science. Ultimately, this research anchored on the health systems theory of Relationship-Centered Care (RCC) (Pew-Fetzer Task Force on Advancing Psychosocial Health Education, 1994) and applied hospitality principles to key components of the system to begin to draw blueprints for VBC operations and better healthcare delivery in the future. The goal of this work is to help providers reframe healthcare operations in terms of building sustainable, trusting relationships to drive better outcomes through co-produced patient-provider experiences.

Healthcare as a Service System

The value of this work is largely derived from the perspective that healthcare is a service system. Services have been defined as the application of competences (knowledge and skills) by one entity for the benefit of another (Vargo & Lusch, 2004). They have also been defined as those “economic activities whose output is not a physical product or construction, is generally consumed at the time it is produced and provides added value in forms (such as convenience, amusement, timeliness, comfort, or health) that are essentially intangible...” (Quinn, Baruch, & Paquette, 1987). Service systems, therefore, are the networks of service producers and service consumers that derive value through interactive configurations of mutual exchange (Vargo, Maglio, & Akaka, 2008). Thus, the key distinction of a service systems lens is the understanding that effective value exchange in these environments requires operational designs that account for their interdependence, reciprocity, and co-creation of value by the component parts (Vargo, Maglio, & Akaka, 2008).

In healthcare, providers offer a service through the application of their clinical knowledge and skills for the benefit of patients’ “good health” or “healthy time” (Grossman, 1972). Patients, however, must provide critical inputs such as personal time, resources, and engagement in order to produce those benefits (Grossman, 1972). Additionally, health systems or healthcare organizations must provide inputs such as facilities, medical equipment, and operational infrastructure. Without any one of those three, main actors, healthcare is likely to fail in achieving its economic and social value. This interactive configuration and reliance on the exchange of largely intangible competences for the benefit of others identifies healthcare as a service system.

Figure 1 depicts a simplified diagram of healthcare as a service system. There are three key elements: 1) components, which are the operating parts of a system and can be either individual actors or organizations 2) relationships, which are the links between the components, and 3) attributes, which are the properties of the components and the relationships between them; the characteristics of the system (Carlsson, Jacobson, Homén, & Rickne, 2002).

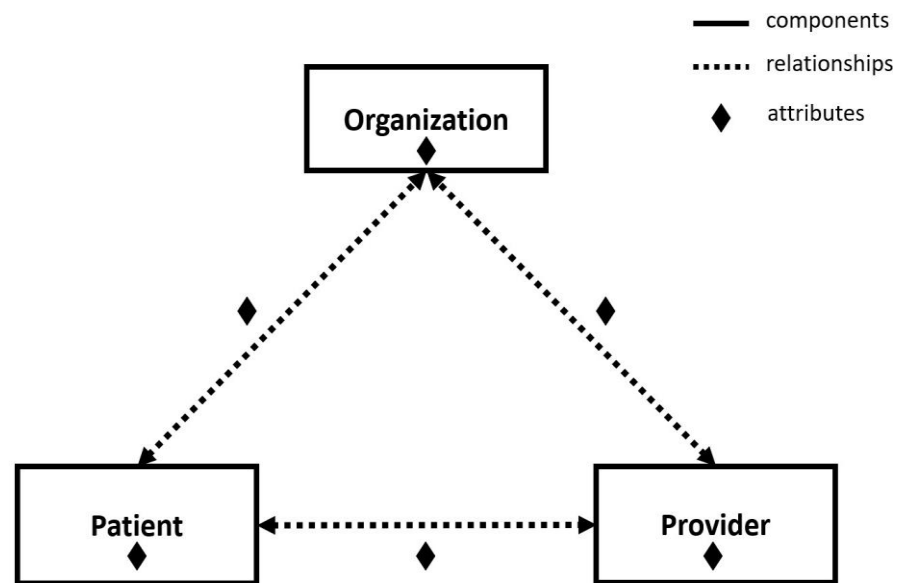


Figure 1. Healthcare as a service system

The intention of this first dissertation chapter is to review the history of healthcare as a service system and the nature of its key system elements in order to establish context for subsequent chapters. First, this chapter will explore a brief history of healthcare to offer insight into its current state and evolution as a service system. Next, the chapter will explore each of the component parts individually and how their evolution in recent years has changed the system's dynamics. Then, the chapter will explore both the importance of relationships in the healthcare system and the attributes or unique characteristics that result from the relationships and

interactions of the component parts. Finally, the chapter will identify ways in which this service system perspective can aid in the implementation of better care delivery models and which aspects of the service system perspective were chosen as the focus of this dissertation.

History of Healthcare as a Service System

Before the Second Industrial Revolution (1870-1969), healthcare in the United States was unorganized, largely ineffective, and often delivered by religious organizations whose intention was simply to help people die (Rosenthal, 2017). Toward the end of the 19th century however, the introduction of the cotton mill and a shift from manual- to machine-based manufacturing increased productivity which also increased the rate of workplace injuries. Demand for healthcare skyrocketed and unions began to call for “sickness protection,” or what is considered the earliest concept of health insurance. At the turn of the century, organizations such as the American Medical Association (AMA), the American Association of Labor Legislation (AALL) and Baylor University Hospital helped establish the foundational elements of an organized health system. The structure they built around physician education, provider institutionalization, and patient insurance coverage established the pillars of U.S. healthcare. Those pillars and the orientation to an acute care setting remained largely unchanged until the 21st century (Shi & Singh, 2019).

The establishment of the U.S. healthcare system in an era of industrialization and out of a demand for acute care service provides context for its deep-seated orientation to quantity of care over quality of care. From an even broader perspective, its development shortly after the Agricultural Revolution (1776-1860) also helps us understand its place within the maturity model of consumer markets and economic value development. Immediately after the Revolutionary War, America oriented its growth and development around commodities that were

easily grown in the new nation: namely wheat, corn, and cotton (Hamby, 2007). As they continued to expand west, however, increased demand and greater distances required new technology. The introduction of the cotton gin, power loom, and steam engine launched the Industrial Revolution (1870-1969) and progressed society to an orientation to goods, or tangible products that are made with the use of commodities as raw materials (Pine & Gilmore, 1999). Goods remained the expression of economic value until the mid-20th century when social development and greater disposable income gave more power to the consumer and created demand for a new class of economic value: service. The Service Economy (1969-2000) and the Experience Economy (2001-present) (Pine & Gilmore, 1999) have dominated the last few decades and have oriented markets to the economic value of services and the power of engaging the consumer in the experience to drive optimal outcomes.

Healthcare, however, remained largely mired in the paradigm of product and goods as economic value. Nursing scholars such as Madelaine Leininger, Jean Watson, and Martha Rogers tried to highlight the “art of caring” and the value of service in the 1970s and 1980s, but the focus has largely remained on diagnosis, treatment, and clinical advancements (Adams, 2016). This acknowledgement that healthcare is an interdependent service system that has largely been approached as a unidirectional goods production industry, begins to illuminate some of the current breakdowns. Whereas a goods orientation proved valuable in addressing society’s early acute care needs, it is failing to effectively serve a society in which chronic diseases are on the rise and the patient needs to be engaged to manage the 80% of choices and lifestyle behaviors that drive their well-being.

Healthcare Service System Components

Within healthcare, the primary actors and key system components at the point of care are the patient, the provider, and the healthcare organization overseeing the care environment (e.g., the health system, hospital, clinic, etc.). The following section explores these three components and how societal shifts have changed the healthcare service system dynamic.

Patient as Consumer

Historically, healthcare was built on a paternalistic paradigm, a power dynamic in which providers maintained all control and patients were not considered as having an active role in their health (Topol, 2015). Doctors were revered as all-knowing healers because the needs were acute and critical at a time when the science of medicine was nascent and opaque, which meant the patient was vulnerable and in no place to question the provider, who was their only hope of survival. Patients were trained to be submissive and deferential toward physicians who were at the forefront of a life-or-death science and wielded all of the power (Topol, 2015). For many years, that power dynamic and the veiled science of medicine persisted unquestioned. Cost, quality, and the experience of care suffered (Rosenthal, 2017). At the turn of the 21st Century, however, three major societal shifts began to transfer power from provider to the patient and adjust the patient-provider dynamic to more authentically reflect healthcare's nature as a service system. These shifts were:

- 1) the “**democratization**” of information, or the impact of the internet in “making [information] available to all people” (Topol, 2015),
- 2) the advent of **consumer-driven health policy** (Shi & Singh, 2019), and

3) the broader consumer market **transition from a product to a service orientation**

(Pine & Gilmore, 1997)

All at once, the patient had the opportunity to become more knowledgeable, more responsible, and more economically powerful.

The democratization of information began with the dawn of the internet in the late 1960s and early 1970s. By the late 90s and early 2000s, health information sites such as WebMD (founded in 1996) and Patients Like Me (founded in 2004) began to pull back the veil on the science of medicine (Topol, 2015). Patients were armed with knowledge that made them more engaged, more empowered, and more emboldened to challenge authority and test new boundaries of their agency as a health consumer.

The first major shift toward consumer-driven health policy was the advent of Health Reimbursement Arrangements (HRAs), Health Savings Accounts (HSAs), and High-Deductible Health Plans (HDHPs) in 2003-2004 (Hughes-Cromwick, Root, & Roehrig, 2007). In an effort to reign in its ever-increasing healthcare costs, the U.S. began looking for ways to change healthcare consumption behaviors (Hughes-Cromwick, Root, & Roehrig, 2007). These plans, designed with lower premiums and higher deductibles, were intended to place more of the cost burden on the shoulders of the patient in an attempt to inspire more prudent healthcare decisions. Debate continues about the behavioral impact of HDHPs and whether they encourage or deter patient engagement in healthcare services, but the cumulative effect of these industry changes brought a spotlight to the role of the patient in the production of healthcare outcomes. As HDHP adoption increased over the last 15 years (Kaiser Family Foundation, 2019), it has also served as fodder for the shift away from a paternalistic system. In 2010, when the Patient Protection and Affordable Care Act (PPACA) was passed, introducing Value-Based Care (VBC) and financial

incentives for patient satisfaction, the reorientation of the health system around the vital role of the patient as health consumer was fully set in motion (Fitzgerald, Bias, & Gurley-Calvez, 2017).

The final contributing factor to a shift toward healthcare consumerism was a broader societal transition from product orientation to service orientation. The Service Economy (1969-2000) was well underway at the turn of the 21st Century. Consumers across industries had begun to value not just the product, but the application of knowledge and skills in the process of delivery (service) and were further starting to value experiences, or “events that engage individuals in a personal way” (Pine & Gilmore, 1997). This, the beginning of the Experience Economy (2001-present), developed a consumer base with a greater appreciation of and demand for personalized service, emotional connection, and active engagement in the co-creation of their life experiences.

The resulting changes in the dynamics of the healthcare industry garnered attention from both industry and academic scholars (McColl-Kennedy, Snyder, Elg, Witell, Helkkula, Hogan, & Anderson, 2016). Early conversations were focused on an increase in consumer responsibility and therefore the implications of the patient as someone who would wield power through payor and provider choice and drive industry change by “voting with their feet.” This narrow interpretation of healthcare consumerism has been widely debated and the appropriateness of the concept in an industry in which patients are sick, vulnerable, and reluctant rages on (Durrah, 2019), but the broader conversation about patients as consumers of health - as co-producers of their own health experiences and as vital components of the service system we need to optimize in order to drive better outcomes - still has merit.

Provider as Producer

In order to fully understand healthcare as a co-produced service industry, it is important to explore the role of healthcare providers as service producers in addition to exploring the role of patients as service consumers. The traditional orientation of healthcare toward product-value and paternalism, meant that for much of healthcare's early existence, the role of the provider was largely seen as omnipotent and unidirectional (Topol, 2015). However, in parallel with and as a reflection of the shifts in the health consumer environment, the provider role and its dynamic within the system also changed. Three key societal shifts impacted the provider role:

- 1) the advent of **consumerism** (Pine & Gilmore, 1999)
- 2) **scientific and technological advancement** (Shi & Singh, 2019)
- 3) **digitization of medicine** (Topol, 2015).

As consumers began to react to the democratization of information (Topol, 2015), increased power through policy (Hughes-Cromwick, Root, & Roehrig, 2007; Fitzgerald, Bias, & Gurley-Calvez, 2017), and the introduction of the Service Economy (Pine & Gilmore, 1999), providers began to navigate a more informed and opinionated patient population as well as new payment incentives that gave credence to those patient perceptions of their care (George, Coffin, & George, 2013). The role that they had previously understood as one-way delivery of care was rapidly being reframed in terms of two-way, co-produced experiences (McColl-Kennedy, Snyder, Elg, Witell, Helkkula, Hogan, & Anderson, 2016). The need to incorporate the patient into their care plans and assess performance on both clinical and service quality were not concepts for which they were trained or prepared (Patel, Pelletier-Bui, Smith, Roberts, Kilgannon, Trzeciak, & Roberts, 2019). Suddenly, in addition to the high expectations of their

scientific knowledge and clinical abilities, providers were also expected to excel at service, a skill that is not inherent in every individual nor one that healthcare was set up to teach. Industry discussions around topics such as “patient-centered care” (Davis, Schonbaum, & Audet, 2005) and “person-centered care” (The American Geriatrics Society expert Panel on Person-Centered Care, 2015) attempted to address this new challenge, but without an understanding of the reciprocal nature of service industries, providers were often left feeling stripped of their agency (Mishra, 2019).

As society was shifting from a product orientation to a service orientation in the mid-20th century (Pine & Gilmore, 1999), the healthcare industry remained focused on scientific advancement and improving its uniquely complex and vital social product (Mishra, 2019). New biological treatments as well as advancements in chemistry, genetics, and radiography created modern medicine as we know it, which was both a boon for social progress and an additional layer of pressure for providers. The complexity and sophistication of the product increased at the same time that consumers were demanding better service. The body of knowledge expanded such that healthcare began to fracture into specialties, health systems became more siloed, and the pressure to master a more advanced level of clinical information further strained any hope of holistic, “person-centered” health ecosystems.

In parallel with the dawn of the internet in the 1960s and early 1970s, several organizations such as Lockheed, Massachusetts General Hospital, and the Veterans Administration began developing early versions of electronic health records (EHRs) (Atherton, 2011). With the dawning of “the era of digitalization,” defined as “the way many domains of social life are restructured around digital communication and media infrastructures,” (Brennan & Kreiss, 2016) came the dawning of the digitization of modern medicine. Digital tools such as the

first patient portal continued to be introduced throughout the late 20th century and in 2009 the Health Information Technology for Economic and Clinical Health Act (HITECH) was passed to encourage the implementation and “meaningful use” of EHRs and other healthcare technology in order to increase documentation and care coordination, improve quality and safety, and engage patients and their families in their health while maintaining privacy and security (Centers for Disease Control and Prevention, 2019). Once again, new expectations were placed on an increasingly pressurized provider environment and the cracks began to show. In recent years, physician burnout rates have hit record highs, with 44% of physicians reporting some version of exhaustion, overwhelm, or similar symptoms which further challenged healthcare quality (Kane, 2019).

From a service systems and operations standpoint, the impact of this increasing pressure on physicians and the subsequent deterioration of healthcare quality is well-understood and well-documented. Concepts such as the Service Profit Chain (Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994), the Triangle Model (Kotler, 1994), and Human Sigma (Fleming & Asplund, 2007) identify the reality that “both sides of the employee-customer encounter [are] interrelated and mutually dependent” (Fleming & Asplund, 2007). In other words, in a co-produced experience such as healthcare, both patient and provider experience must be managed simultaneously and the enablement of that relationship through operations has to be viewed as one construct in order to drive business performance.

Organization as Facilitator

Before the turn of the 20th century, there was little infrastructure within which the profession of medicine and healthcare as a social function could thrive. Care had traditionally been delivered in the home and hospitals were predominantly religious or charitable institutions

for the sick and poor (Starr, 1982). As the practice of medicine got more sophisticated and the industry matured, hospitals became the organizing function for the delivery of care. As of 2020, there were 6,090 hospitals and 417 health systems in the U.S. (American Hospital Association [AHA], 2021; AHA, 2021b). These institutions serve a critical role in facilitating the relationships between patients and providers, developing the infrastructure to execute on service system operations, and navigating the broader context of government policy and the socioeconomic pressures of their service areas. In recent years, their role within the service system has also been subjected to societal shifts. Three key shifts are:

1) increased **cost pressure** (Fuchs, 2012)

2) **expanding scope** of responsibility (The Beckers Healthcare Editorial Team, 2020)

3) increased **policy burdens** (The Beckers Healthcare Editorial Team, 2020)

In 1950, health expenditures accounted for 4.6% of the U.S. gross domestic product (GDP). By 2009, they accounted for over 17% of GDP (Fuchs, 2012). At the time, that was more than the manufacturing industry alone and more than the agriculture, mining, and construction industries combined (Fuchs, 2012). Politicians, economists, and industry experts began raising concerns about sustainability and applying pressure to healthcare organizations to cut costs. Meanwhile, healthcare organizations were caught in the middle. Medical advances had resulted in a decrease in traditional revenue sources such as acute care and longer lengths of stay and an increase in expenses such as complex care supplies, pharmaceutical costs, and higher salaries for specialty skill sets (Ashby & Lisk, 1992). Simultaneously, a transition from out-of-pocket payment to third party payment through insurers, the government, or large employers, had

resulted in a loss of control over some key financial levers necessary to manage expenses (Ashby & Lisk, 1992; The Beckers Healthcare Editorial Team, 2020). The response to those margin pressures was an increase in mergers and acquisitions in an attempt to consolidate purchasing power and achieve efficiencies. While this made sense from an economic perspective, it resulted in unintended consequences to the healthcare service system. Increased system complexity, divergent incentives, and distancing of decision-makers from care communities strained the connective tissue and made it more challenging to deliver on local, customized health service offerings.

As medical advances began to shift the focus away from acute care, hospitals began to expand services into the community to preserve revenue. Outpatient services such as same-day surgery, magnetic resonance imaging and specialty clinics grew (Fuchs, 2012) as did the hospital and health system focus on public health issues (The Beckers Healthcare Editorial Team, 2020). In recent years, epidemics and pandemics such as Ebola, Zika, measles, (The Beckers Healthcare Editorial Team, 2020) and now COVID-19 required new system capabilities and care delivery strategies. Additionally, complex social and behavioral health concerns such as the opioid epidemic, mass shootings, racial justice and critical deficiencies in social determinants of health have landed at the feet of health systems that are already strained for resources (The Beckers Healthcare Editorial Team, 2020). This expansion of healthcare organizations' scope of responsibility overlaid on the backdrop of persistent resource constraints reveals the tension in healthcare operations to deliver on competing goals while maintaining positive relationships amongst all members of the service system.

In recent years, the most impactful shift for healthcare organizations has been the passage of the Patient Protection and Affordable Care Act (ACA). ACA was the most dramatic policy

reform passed since that of Medicare and Medicaid in 1965 (The Beckers Healthcare Editorial Team, 2020). It fundamentally redirected the delivery of U.S. healthcare toward value-based care (VBC) goals and included reform of everything from payment and delivery models to key performance indicators. While this was a necessary step in the effort to realign U.S. healthcare toward quality over quantity of care and reorient the industry toward the service system paradigm of co-production, it produced significant burdens for healthcare organizations. Changes at every level of the operation further exacerbated the complexity of the system and increased administrative costs, diverting attention and resources from other service system needs and capabilities.

Scholars in the field of organizational behavior have long understood that the nature of organizations is largely a result of the individual or group actions within it and, therefore, organizations have an anthropomorphic quality (Staw, Sandelands, & Dutton, 1981). Within service systems theory, this is important because it indicates that organizations will often exhibit human factors such as bounded rationality (Pearson & Clair, 1998), emotional responses (Staw, Sandelands, & Dutton, 1981) and a concern for individual and social identity (Powell & Baker, 2014; Kahn, Fisher, Heaphy, Reid, & Rouse, 2018). In healthcare, therefore, the organization can be seen as an anthropomorphic actor whose responses to and management of stimuli such as the financial pressure, competing goals, and resource constraints mentioned above are critical to the co-production of health service system outcomes.

Health System Relationships

More so than the components of a service system, the relationships between those components and the patterns of behavior that they create are often the lifeblood of the system

(Capra & Luisi, 2014). The following section explores our nascent understanding of relationships in service systems and the potential value they can bring to new healthcare delivery models.

Relationships as Currency

As service industries began to evolve in the 1970s, academic researchers started to study the unique dynamics of these human-human value exchanges. With that came a focus on how our social nature as human-beings results in our orientation toward connection and the high value of relationships in service systems (Berry, 1995). Academic scholars and industry leaders alike had historically focused on customer acquisition and the point of sale, but there was a dearth of research on customer retention and the human and economic value of repeated interactions and longitudinal consumer relationships (Schneider, 1980).

In 1983, scholar, Leonard Berry, introduced the term “relationship marketing” into the service research field and defined it as “attracting, maintaining...and enhancing customer relationships” (Berry, 1983). Research by scholars such as Parasuraman, Zeithaml, Bitner, Reichheld, Sasser, Gummesson, and Gronroos added to Berry’s work and explored Relationship Marketing’s benefits to the firm and to the customer in a variety of service settings. Over the years, research in this space identified trust, commitment, relationship satisfaction, and relationship quality as four key mediators that drive loyalty and business performance (Morgan & Hunt, 1994, Palmatier, Dant, Grewal, & Evans, 2006), thus demonstrating the criticality of relationships to the achievement of service system objectives.

In healthcare, a service industry identified by its uniquely negative emotional load, intense asymmetry of information, and high level of personal risk, trust between patient and provider is, in fact, critical, making an orientation to relationships essential (Schwartz, 2015).

Acknowledgement of that fact was first codified in 1994 in a report from The Pew-Fetzer Task Force on Advancing Psychosocial Health Education. The report, titled “Health Professions Education and Relationship-Centered Care (RCC),” acknowledged that the shifting dynamics of healthcare and the general discontent with current conceptualizations of care delivery identified a need for a new model of care - one that was values-oriented and properly acknowledged the healer’s dependence on relationships to serve their desired social role (Pew-Fetzer Task Force, 1994). The vital need for relationship marketing and service concepts in healthcare had finally been endorsed by clinicians, nurses, and health educators alike. The movement, however, failed to gain traction in the 90s.

In 2006, Relationship-Centered Care (RCC) began to resurface. Mary Catherine Beach and colleagues published a seminal paper titled “Relationship-Centered Care: A Constructive Reframing” (Beach, Inui, & the Relationship-Centered Care Research Network, 2014) in which they called for renewed attention to RCC which they described as “an important framework for conceptualizing health care, recognizing that the nature and the quality of relationships are central to health care and the broader health care delivery system.” (p.S3) In that article, Beach et al. outlined four (4) key principles of RCC:

Principle 1: Relationships in health care ought to include dimensions of personhood as well as roles.

Principle 2: Affect and emotion are important components of relationships in health care.

Principle 3: All health care relationships occur in the context of reciprocal influence.

Principle 4: Relationship-Centered Care has a moral foundation.

Furthermore, the article pushed the boundaries of existing notions of patient-centered healthcare by broadening the idea of bi-directional experiences to a multi-directional concept in which all relationships in the healthcare ecosystem, including the relationship with the community at large, are critical to the system's success and need to be considered as an interdependent whole. As demonstrated in Figure 2, Beach et al. encouraged exploration of not only the primary component relationships, but also the relationships of those components with themselves and with the community or context of care.

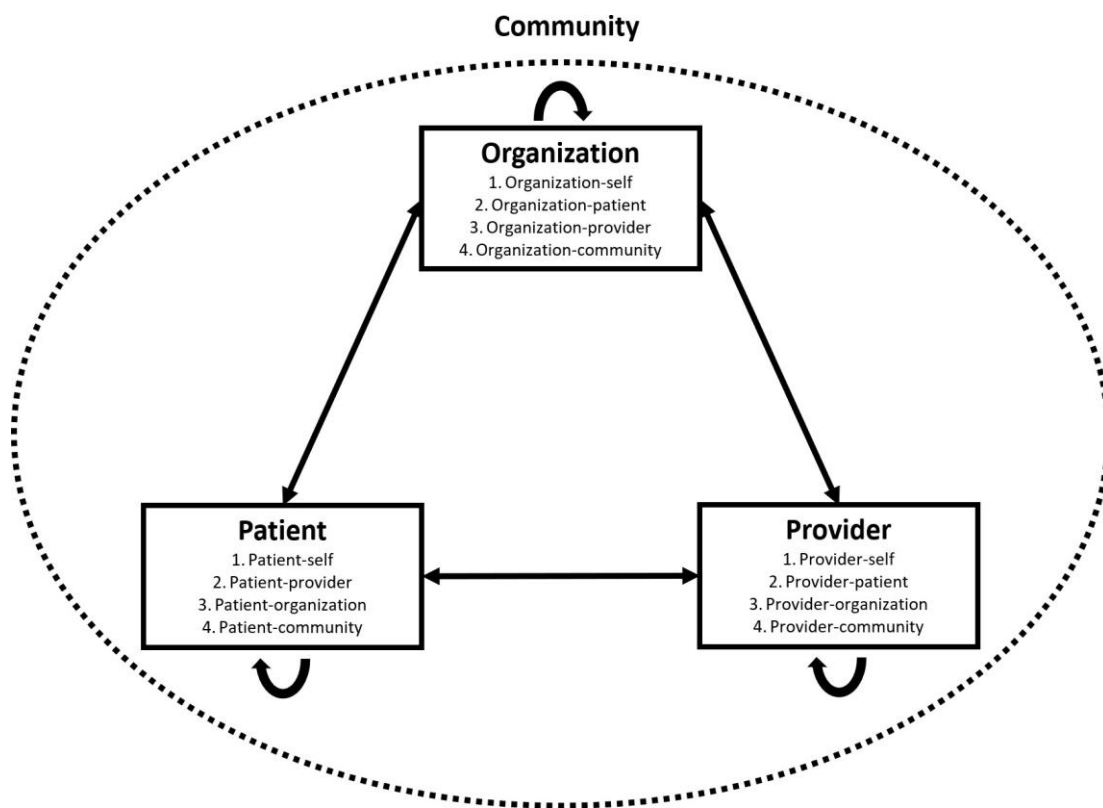


Figure 2. Relationship-centered care

Based on the results of a 2016 scoping review of RCC (Soklaridis, Ravitz, Nevo, & Lief, 2016) only sixty-nine articles have been published on the topic in over two decades since its inception. According to that review a large gap still remains in “identifying the features of a relationship-centered culture and using the language of RCC to promote system-wide change....

embracing RCC requires redesigning clinical processes and transforming health care organizations” (Soklaridis et al., 2016). That scoping review played an integral role in inspiring this research and aiming to fill the gap of operational approaches to RCC by leveraging relationship marketing, service operations, systems thinking, and design.

Health System Attributes

Service system attributes, or those characteristics of the service system that should drive the conceptualization and design of service delivery (Tax and Stuart, 1997; Roth & Menor, 2003), have been a topic of interest in service research from its inception in the 1970s (Ponsignon, Smart, & Maull, 2011). However, the application of that thinking to healthcare did not begin until the early 2000s (Berry & Bendapudi, 2007). The following section reviews the history of service system attribute research and the development of healthcare’s unique expressions of those attributes.

Attributes as System Design Principles

In the 1970s, when service industries first garnered the attention of researchers (Berry & Parasuraman, 1993), several foundational characteristics were established to identify what distinguished service industries from product industries, making them function in unique ways. Several early service scholars contributed to what became known as the IHIP service characteristics, namely that services are inseparable, heterogeneous, intangible, and perishable (Zeithaml, Parasuraman, & Berry, 1985) (Table 1).

Service Characteristic	Definition	SOURCE(S)
Inseparable	Services are consumed in the process of their production	Berry, 1975, 1980, 1983 Gronroos, 1977, 1978, 1979, 1983 Lovell, 1981 Sasser, Olsen, & Wyckoff, 1978 Uhl & Upah, 1980, 1981 Zeithaml, 1981
Heterogeneous	Services are as diverse as the producers and consumers who co-produce them together	Berry, 1975, 1980, 1983 Sasser, Olsen, & Wyckoff, 1978 Uhl & Upah, 1980, 1981 Zeithaml, 1981
Intangible	Services can not be seen, touched, or carried home by the consumer	Berry, 1975, 1980, 1983 Gronroos, 1977, 1978, 1979, 1983 Lovell, 1981 Sasser, Olsen, & Wyckoff, 1978 Uhl & Upah, 1980, 1981 Zeithaml, 1981
Perishable	Services can not be retained after they are produced	Berry, 1975, 1980, 1983 Sasser, Olsen, & Wyckoff, 1978 Uhl & Upah, 1980, 1981

Table 1: IHIP service characteristics

Although, at the time, the researchers did not have the systems language to label them as such, these characteristics were intended to aid in the conceptualization and design of service systems (Tax and Stuart, 1997; Roth & Menor, 2003), thus fulfilling the role of service system attributes. Where true, these service system attributes were seen to warrant specific marketing and operations tactics (Zeithaml, Parasuraman, & Berry, 1985), solidifying the need for a unique design and management approach for service systems. In recent years, IHIP has been challenged in the process of a great debate about the most appropriate service paradigm to support research in the field (e.g., IHIP characteristics; Service-Dominant Logic, Vargo & Lusch, 2004; the Unified Service Theory, Sampson, 2010). Given that IHIP has continued to prove itself a valid tool (Moeller, 2010; Blut, Beatty, Evanschitzky, & Brock, 2014), and that IHIP plays a vital role in our understanding of service system network dynamics, it is supported by this work and was used to further this thinking.

In 2007, Berry and Bendapudi became two of the first researchers to apply the IHIP characteristics to healthcare. They began by confirming that healthcare shares the foundational

service system attributes in that it is inseparable, heterogeneous, intangible and perishable (Berry & Bendapudi, 2007). Their more interesting contribution, however, was the identification of six unique qualities of healthcare as a service:

- 1) patients are sick
- 2) patients are reluctant
- 3) patients relinquish their privacy
- 4) patients need “whole person” service
- 5) patients are at risk
- 6) clinicians are stressed.

These qualities indicate that while healthcare meets the IHIP criteria for service industries, there are unique elements of its system components and relationships that produce rare expressions of those characteristics. The following two tables (Table 2 and Table 3) expand on Berry and Bendapudi’s line of thinking and add the service concept structure of *what* vs. *how* (Gronroos, 1984; Goldstein, Johnston, Duffy, & Rao, 2002) to categorize healthcare’s unique attributes.

System Attributes (the 'what')	Definition	Source(s)	Healthcare Expressions	Description	Source(s)
Output					
Quality of Life Enhancing	Services aim to enhance the quality of the consumer's life in some regard.	Tien & Berg, 2003	High Negative Emotional Load	The value proposition in healthcare is an output of "good health" or "healthy time." For the <i>patient</i> , that often has implications for vitality and individual identity as well as social value or "household production function." Therefore, healthcare is very personal, very risky, and with a high negative emotional load (e.g. fear, anxiety). That emotional load affects the whole system in that <i>providers</i> carry that burden in addition to their clinical responsibilities and the <i>organization</i> has to find ways to support both patient and provider mental health.	Berry & Bendapudi, 2007 Cook, Bowen, Chase, Dasu, Stewart, & Tansik, 2002 Dube, Belanger, & Trudeau, 1996 Grossman, 1972 McColl-Kennedy, Danaher, Gallan, Orsingher, Lervik-Olsen, & Verma (2017) Radley, 1994 Schwartz, 2015 Vogus & McClelland, 2016
Input					
Human Capital Intensive	Services require human capital investments (e.g. knowledge, skill, time) as inputs in order for the system to create value.	Tien & Berg, 2003	Reluctance	In addition to providing common human capital investments such as time and attention, <i>patients</i> have to relinquish their privacy and make themselves vulnerable to engage with healthcare, meaning that they are often a reluctant consumer. <i>Providers</i> , then, are expected to deliver superior health outcomes when they are consistently facing reluctant or even deviant patients who are not interested in adhering to care plans or co-producing their own health outcomes. Health <i>organizations</i> , therefore, face the additional hurdle of developing patient engagement strategies in addition to clinical and service capabilities.	Berry & Bendapudi, 2007 Liu, Bozic, & Tiesberg, 2017 Radley, 1994 Schlesinger, & Fox, 2016 Schwartz, 2015
Process					
Reciprocal	Services derive value through "interactive configurations of mutual exchange."	Vargo, Maglio, & Akaka, 2008	Relational	The personal and vulnerable nature of healthcare means that the mutual exchange exhibits as a need for deeper relationships between <i>patient</i> and <i>provider</i> as well as trust among <i>patient</i> , <i>provider</i> , and <i>organization</i> to facilitate care. The currency for this kind of relationship is time, making temporality and a long-term relationship orientation key variables in healthcare experiences.	Cook, Bowen, Chase, Dasu, Stewart, & Tansik, 2002 Shore, 2007 Vogus & McClelland, 2016

Table 2: Healthcare's expression of the 'what,' or those unique attributes of the health service system

*Table 2 adapted from Zeithaml, Parasuraman, & Berry, 1985

Much of what Berry and Bendapudi recognized about healthcare's distinct qualities are a result of the unique nature of its core systems elements (Table 2). Beginning with the product, or the ultimate output of the system, healthcare like other information and service systems seeks to enhance the consumer's quality of life (Tien & Berg, 2003). However, healthcare is unique in that it directly produces quality of life instead of indirectly serving it. In other words, healthcare deals in the very primal sphere of vitality, thriving, and thus life purpose, indicating that the failure or breakdown of that "product" is a breakdown of primal constructs of survival, identity, and social value (Radley, 1994). As a result, healthcare carries a uniquely high-risk orientation (Berry & Bendapudi, 2007; Schwartz, 2015; Vogus & McClelland, 2016) and a high negative emotional load often dominated by fear and anxiety (Dubé, Bélanger, & Trudeau, 1996; Cook, Bowen, Chase, Dasu, Stewart, & Tansik, 2002; Berry & Bendapudi, 2007; McColl-Kennedy, Danaher, Gallan, Orsinger, Lervik-Olsen, & Verma, 2017).

Working back from the ultimate output of the healthcare system, we can then acknowledge that consumer inputs in the co-production of health are also unique. In order for healthcare providers to create value for patients, the patient has to present their mental, spiritual and physical self as an input for examination and what patients often perceive as judgment. Therefore, in order to engage with the healthcare system and co-create value, patients must relinquish their privacy (Leino-Kilpi, Valimaki, Dassen, Gasull, Lemonidou, Scott, & Arndt, 2001; Berry & Bendapudi, 2007), make themselves vulnerable (Berry & Bendapudi, 2007; Liu, Bozic, & Tiesberg, 2017), and often wrestle with shame (Lazare, 1987; Harris & Darby, 2009; Dolezal & Lyons, 2017). This frequently results in reluctant health consumers (Berry & Bendapudi, 2007; Schwartz, 2015), which is a key divergence from consumer profiles in many other service systems and has important implications for engagement strategies.

The process of delivering health services, therefore, is inherently one that requires deep, personal relationships to achieve engagement. While all service systems require reciprocal models of value and “interactive configurations of mutual exchange,” (Vargo, Maglio, & Akaka, 2008), healthcare relies heavily on intimate relationships and trust to optimize value (Shore, 2007; Vogus & McClelland, 2016). One of the building blocks of trust is consistent performance, in other words, the demonstration of integrity, competence and support over time (Shore, 2007). Thus, the element of temporality and the cadence of interactions and service delivery is critical to the design and execution of health service experiences (Cook, Bowen, Chase, Dasu, Stewart, & Tansik, 2002).

That understanding of the nature of healthcare’s key system elements (the ‘*what*’) aids in our understanding of healthcare’s expression of the IHIP characteristics as service attributes (the ‘*how*’). (Table 3)

Service Attributes (the 'how')	Definition	Source(s)	Healthcare Expressions	Description	Source(s)
Inseparable	Services are consumed in the process of their production.	Berry, 1975, 1980, 1983 Gronroos, 1977, 1978, 1979, 1983 Lovell, 1981 Sasser, Olsen, & Wyckoff, 1978 Uhl & Upah, 1980, 1981 Zeithaml, 1981	Disparate	The highly inseparable nature of health service delivery means access to care is critical and current gaps are resulting in disparate care quality.	Institute of Medicine, 2001 Mohammed, Nolan, Rajjo, Shah, Prokop, Varkey, & Murad, 2016
Heterogeneous	Services are as diverse as the producers and consumers who co-produce them together.	Berry, 1975, 1980, 1983 Sasser, Olsen, & Wyckoff, 1978 Uhl & Upah, 1980, 1981 Zeithaml, 1981	Complex	The complexity of the human body and the bioindividuality of people and their service preferences results in the need for high levels of customization of both clinical care and health services.	Institute of Medicine, 2001 Liu, Bozic, & Tiesberg, 2017 Schwartz, 2015 Vogus & McClelland, 2016
Intangible	Services can not be seen, touched, or carried home by the consumer.	Berry, 1975, 1980, 1983 Gronroos, 1977, 1978, 1979, 1983 Lovell, 1981 Sasser, Olsen, & Wyckoff, 1978 Uhl & Upah, 1980, 1981 Zeithaml, 1981	Opaque	The sophistication of clinical knowledge and skill sets creates an asymmetry of information that is made worse by a confusing third party payor system, resulting in total ambiguity and uncertainty of quality and value in healthcare.	Berry & Bendapudi, 2007 Ranard, Werner, Antanavicius, Schwartz, Smith, Meisel, Ason, Ungar, & Merchant, 2016 Vogus & McClelland, 2016
Perishable	Services can not be retained after they are produced.	Berry, 1975, 1980, 1983 Sasser, Olsen, & Wyckoff, 1978 Uhl & Upah, 1980, 1981	Morally Tense	Healthcare organizations stay financially viable by selling perishable services, but patients are best served by remaining healthy and not using those services. This creates a tension for healthcare organizations and breeds distrust for patients.	Austin, 2007 Morley, Ives, & Bradbury-Jones, 2019 Schwartz, 2015

Table 3: Healthcare's expression of the 'how,' or those unique attributes of health service relationships

*Table 3 adapted from Zeithaml, Parasuraman, & Berry, 1985

The very nature of health as a product that is considered a “sacred value” (Schwartz, 2015) and one that is largely accepted as a fundamental human right (Gawande, 2017) colors the delivery of healthcare services. Whereas services in general are designed for their inseparable value co-production, the moral underpinnings of healthcare result in a criticality of inseparability that is commonly discussed as themes of health disparities and concerns about equal access to care (Institute of Medicine, 2001, Mohammed, Nolan, Rajjo, Shah, Prokop, Varkey, & Murad, 2016). What is typically a concern for high levels of customization in services due to the heterogeneity of human service delivery, is further exacerbated in healthcare by the reality that both the product (physical and mental care) and the service (emotional care) of health are highly variable and deeply complex (Institute of Medicine, 2001; Schwartz, 2015; Vogus & McClelland, 2016; Liu, Bozic, & Tiesberg, 2017). Furthermore, the complexity of medical science and the infrastructure that has organically grown to support it, has made an already intangible and confusing service with high asymmetry of information, nearly opaque and impossible to navigate (Berry & Bendapudi, 2007; Ranard, Werner, Antanavicius, Schwartz, Smith, Meisel, Ason, Ungar, & Merchant, 2016; Vogus & McClellan, 2016). The perishable nature of services as a business, then, results in a moral tension that has historically incentivized financial viability at the expense of the population’s health (Austin, 2007, Morley, Ives & Bradbury-Jones, 2019; Schwartz, 2015).

These service system attributes and the understanding of how our current healthcare system expresses them can serve as guideposts for the design of better health delivery systems in the future. Lack of understanding or study of healthcare as a service system has inadvertently led to the negative expression of the IHIP characteristics and left a system associated with inequality, negative emotion, and complexity. However, the application of cross-industry service

research and established operational strategies for managing service's unique challenges, may offer an opportunity to improve care design and delivery.

Conclusion

The United States, as one of the most developed nations in the world, has one of the lowest value health systems. Since attention was first drawn to the gap between cost and quality over two decades ago, little has changed. Passage of ACA was a step in the right direction and the VBC policies within it provided a North Star for the industry. However, plans to operationalize that change have been unsuccessful.

Relationship-centered care (RCC), as a more holistic health service systems model, has the potential to succeed where other operations approaches have failed. Whereas past attempts at care model innovation have been siloed or focused on improving the experience of one component in isolation, RCC acknowledges that healthcare is interdependent, reciprocal, and contextual. Its emphasis on whole human health, the importance of emotional dimensions of care, and the critical role of relationships is reflective of healthcare's nature as a highly vulnerable human-human service industry. Its focus on long-term engagement and community involvement is aligned to the health challenges and context currently facing the U.S. However, despite its introduction in 1994 and its attempted resurgence in 2006, RCC has largely been overlooked by the healthcare industry. Accompanying operating models are almost nonexistent.

The structure of this dissertation maps to the RCC systems framework seen in Figure 3. This work was intended to begin the line of inquiry into new strategies and operations plans that can support the adoption and integration of RCC into our healthcare system. It is organized into three chapters that focus on three key elements of the system: 1) the relationship of the patient to

themselves in terms of their orientation to health and the consumption of health experiences, 2) the relationship between the patient and the organization in terms of health experience design and delivery that can drive patient engagement and 3) the relationship of the organization to itself in terms of organization identity, behavior and health service delivery during a health crisis.

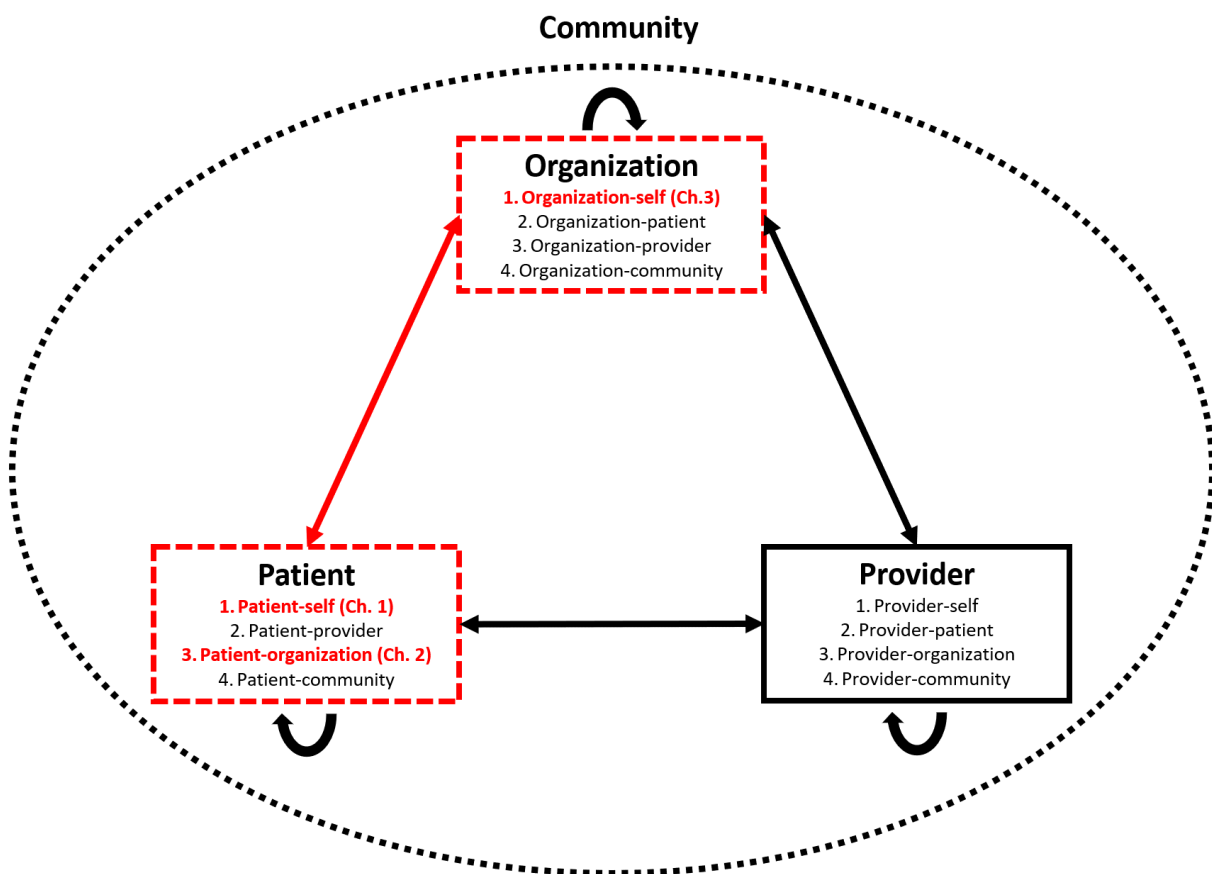


Figure 3. Relationship-centered care dissertation focus areas

Future research within the RCC framework abounds. Each element of the service system as well as the relationships between them offer an opportunity for fresh perspectives leveraging service and systems theories. There is also ample opportunity to bring extant literature and cross-disciplinary research from fields such as psychology, neuroscience, consumer and organizational behavior, health and behavioral economics, and design under the umbrella of the RCC service system to build out a fresh, holistic viewpoint. Ultimately, the goal of RCC service operations

research should be the delivery of more integrated, relational, and co-produced models of care that aim to drive value through more holistic and sustainable human thriving.

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CHAPTER 1

HEALING THE WHOLE HUMAN: REDEFINING HEALTH AND UNDERSTANDING THE HEALTH CONSUMER

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Introduction

In 1999, the Institute of Medicine (IOM) published a seminal report titled *To Err Is Human*, in which it stated that there could be as many as 98,000 hospital deaths in the U.S. per year as a result of medical errors (Institute of Medicine [IOM], 1999). The report shocked the country with the revelation that quality healthcare was not a guarantee in one of the wealthiest nations in the world. Demands for improvement spurred the IOM to publish a companion report in 2001 titled *Crossing the Quality Chasm*, which outlined an agenda for change (IOM, 2001). Paramount amongst its ten rules for redesigning care were the concepts of patient centricity and the design of healthcare experiences that encourage healing relationships (IOM, 2001). The IOM's two reports fundamentally changed the way the U.S. perceived its healthcare system and launched a movement to prioritize its redesign with the patient as the focal point.

However, as of 2017, the U.S. still ranked 27th in the world in terms of health outcomes (Lim, Updike, Kaldjian, Barber, Cowling, York, Friedman, Xu, Whisnant, Taylor, Leever, Roman, Bryant, Dieleman, Gakidou, & Murray, 2018) while spending 17.7% of its Gross Domestic Product (GDP) on healthcare (Center for Medicare & Medicaid Services [CMS], 2018). This expense is more than any other high-income country and it has continued to increase over the last three decades without a marked improvement in health system performance (Schneider, Sarnak, Squires, Shah, & Doty, 2017) despite the passage of the Patient Protection and Affordable Care Act (ACA) in 2010. Thus, for a country that has spent two decades aiming to improve the value of its healthcare system, the U.S. has made minimal progress.

In healthcare, “value” is defined as “the ability to achieve meaningful outcomes for a patient relative to the money spent on their care” (Porter & Teisberg, 2006). Broad achievement of this goal requires coordinated effort at various levels of the system including policy (macro),

health systems (meso), and operations (micro). Hindrances to that goal, therefore, are similarly dispersed. At the policy level, research has identified the primary barriers to value as a lack of universal insurance coverage as well as administrative and pharmaceutical costs (Schneider, Sarnak, Squires, Shah, & Doty, 2017; Papanicolas, Woskie, & Jha, 2018). At the health system level, research has identified the primary barrier as poor access to preventative and primary care (Schneider, Sarnak, Squires, Shah, & Doty, 2017). At the operations level, research has identified key barriers as lack of actionable operations plans (Fix, Lukas, Bolton, Hill, Mueller, LaVela, & Bokhour, 2018) and the need to better understand the role of human behavior in the context of an interconnected healthcare system (Dai & Tayur, 2019).

This study focuses on the operations level barriers, exploring concepts of health consumer behavior and engagement in response to the IOM's call to design more patient-centric healthcare experiences (IOM, 2001). More specifically, this study focuses on the consumer behavior concept of psycho-behavioral segmentation, or the idea that experiences are more engaging when they are designed not only according to *what* consumers want, but *why* they want it. The unique contribution of this work is the exploration of "acuity segmentation," a term developed by the authors to describe the hypothesized presence of psycho-behavioral health segments that align to illness severity and have implications for the magnitude and valence of the consumer's emotional load as well as their needs, expectations, satisfaction and engagement with their health experiences. Two primary research questions related to that inquiry were the foundation of this work:

- 1) Do health consumers with divergent health goals assess their overall experiences differently?

2) Do health consumers with divergent health goals assess experience dimensions differently?

These two questions were explored through a case study approach analyzing the guest satisfaction data from Canyon Ranch, an integrative wellness organization based in Tucson, AZ. This paper begins by reviewing the history of Canyon Ranch as a health services organization and exploring how the evolution of their consumer segments led to this research project. It then moves on to review the extant literature on the definition of health, the concept of health consumption as social value, and the current understanding of health consumer segments. Next, the paper outlines the regression techniques used to analyze the guest satisfaction data before reporting out on segment differences in satisfaction versus likelihood to return and interaction effects with the eight experience dimensions. Finally, the discussion section examines the potential implications for health service organizations, how these findings might translate into improved health outcomes at the operations level, and what opportunities exist for future research in this space.

Background: Canyon Ranch

Canyon Ranch opened its first health spa in Tucson, Arizona in 1979 with the mission “to inspire people to make a commitment to healthy living, turning hopes and intentions into the highest enjoyment of life” (Canyon Ranch, 2021). Mel and Enid Zuckerman, the founders of Canyon Ranch, aimed to create an integrative wellness destination that incorporated board-certified physicians, registered dietitians, exercise physiologists, licensed therapists, and a variety of other care providers that could support guests in their vision for holistic health improvement. Since opening its first location, Canyon Ranch has gone on to open two more health spas in Lenox, Massachusetts and Woodside, California; a day spa, fitness center, and restaurant at The

Venetian Resort in Las Vegas, Nevada; on board spa and fitness centers on Celebrity Cruises and Cunard vessels; and residential communities in Tucson, Arizona; Lenox, Massachusetts; and Miami, Florida (Canyon Ranch, 2021). As the company grew, its commitment to the mission remained, but its consumer profile began to change.

In 2018, Canyon Ranch's leadership team reached out to Cornell University's Institute for Healthy Futures (CIHF), an academic institute dedicated to the study of the intersection between hospitality, healthcare, and design. Canyon Ranch had recognized that it was attracting new health consumers "whose norms [weren't] known" (M. Anderson, Vice President of Sales, Canyon Ranch, personal communication, May 31, 2018). Unlike their traditional, proactive wellness guests, these new Canyon Ranch consumers presented a more reactive, cure motivation for their visits. Reflecting the rise of chronic disease rates in the U.S. (Raghupathi & Raghupathi, 2018), these new consumers often cited complex medical challenges such as diabetes, irritable bowel syndrome, and fibromyalgia as the motivation for their visits. Unlike other wellness resorts, Canyon Ranch had always offered clinical capabilities in addition to wellness services and this new guest was seeking an integrative approach to disease management that they could not find elsewhere. Canyon Ranch wanted to stay true to its mission and serve all guests who were committed to healthy living, but they sensed a misalignment of the traditional experience with the needs of this new guest population.

The Cornell research team had heard similar anecdotal evidence of a distinction between "well" and "cure" segments or in conversations with CIHF research partners, including those in more traditional healthcare settings. The researchers had begun to hypothesize the existence of "acuity segmentation," or the differentiation of experience expectations based on illness severity and therefore, motivation for health consumption. Within traditional healthcare settings, an

example of these segments was given in the divergence of expectations between maternity patients (generally, well patients) and oncology patients (generally, cure patients). Maternity patients were said to focus more on non-clinical experience dimensions such as food quality while oncology patients were said to focus more on clinical experience dimensions such as care coordination (J. Leggio, Associate Executive Director, Lennox Hill Hospital, personal communication at CIHF Advisory Board Meeting, April 12, 2018; P. Yesawich, Chief Growth Officer, Cancer Treatment Centers of America, personal communication at CIHF Advisory Board Meeting, April 12, 2018). This indicated that the hypothesis of psycho-behavioral segmentation was worthy of inquiry and may have broader implications for the design of engaging patient experiences across a variety of health services settings.

Between 2018 and 2020, the Cornell research team began to help Canyon Ranch explore its health consumer population. The ultimate goal of Canyon Ranch, was to design a differentiated wellness experience to better serve the diverse needs of both health consumers. The first step in that endeavor was to confirm the existence of different motivational segments (psycho-behavioral segments) and better understand their health experience orientation and expectations. From there, Canyon Ranch would have the opportunity to design aligned service offerings that could drive a diversity of health outcomes and value.

Literature Review

Three main areas of extant literature required exploration. The first area of research is the general understanding of consumer behavior and the importance of consumption in society and in the economy. In healthcare, there is great debate about the use of the term “consumer” to describe patients (Durrah, 2019; Gusmano, Maschke, & Solomon, 2019), so it is helpful to define and scope consumerism for the purposes of this research. The second area of research is

the understanding of health, wellness, and well-being as a good or service to be consumed. Debate also exists about the definition of health and the responsibility of health service organizations to deliver on all aspects of health (Serxner, 2017), therefore, defining health and its value in society is key for this work as well. The third and final area of research is the unique nature of the health consumer and the hypothesized behavioral segments therein. This final area of research combines the previous two to better understand the power of designing experiences for health consumer engagement and the potential to drive better health outcomes as a result.

Consumer Research

Consumer research is a relatively young discipline, having split off from more traditional studies of commodities in the fields of economics and marketing in the late 1960s (Sheth, 2017). Consumer researchers diverged from economists on the assumption of rational choice and instead, studied “psychological theories of emotional choices” (Sheth, 2017). As a result, consumer research has become a multi-disciplinary study, taking influence from its origins in economics and marketing, but also layering in psychology, sociology, anthropology, philosophy and the humanities (Holbrook, 1987). Scholar, Morris Holbrook, penned what is perhaps one of the most commonly accepted definitions of consumer research:

“(1) Consumer research studies consumer behavior; (2) consumer behavior entails consumption; (3) consumption involves the acquisition, usage, and disposition of products; (4) products are goods, services, ideas, events, or any other entities that potentially provide value; (5) value is a type of experience that occurs for some living organism when a goal is achieved, a need is fulfilled, or a want is satisfied; (6) such an achievement, fulfillment, or satisfaction attains consummation; conversely, a failure to achieve goals, fulfill needs, or satisfy wants thwarts consummation; (7) the process of consummation (including its possible breakdowns) is therefore the fundamental subject of consumer research.” (Holbrook, 1987, p.128)

As opposed to economics or marketing which tend to look at *what* consumers do or believe, consumer research is interested in *why* consumer behave the way they do (Sheth, 2017). This line of inquiry aides us in our understanding of how people operate both individually as well as within social structures and in what ways we might evolve to more effectively co-produce value in these human systems.

To that end, consumer behavior research has focused a lot of attention on expectation-value models and motivation-need theories (van Raaij & Wandwossen, 1978). Expectation-value models explore the cognitive association between the expectation that a product or service will aide in goal attainment and the decision to buy or engage with that product or service (van Raaij & Wandwossen, 1978). Motivation-need theories explore the underlying goals or needs that consumers are trying to meet when they become motivated to buy or engage with those products or services. Several prominent motivation-need theories such as Maslow's Hierarchy of Needs (Maslow, 1943) and Max-Neef's Model of Human Scale Development (Max-Neef, 1991) differ in the identification of human need dimensions, however, they have aligned on one common theme: the two-factor model of consumer behavior. The two-factor model of consumer behavior states that there are two types of need motivators: deficiency needs and growth needs (Maslow, 1943), also called hygienic needs and motivating needs (Herzberg, 1966). Deficiency/hygienic needs are functional needs that if left unfulfilled, will result in dissatisfaction. Growth/motivating needs are aspirational needs that when fulfilled, will result in satisfaction. When making decisions or engaging in expectation-value assessments, consumers aim to fulfill deficiency/hygienic needs before growth/motivating needs. They have different orientations to each and a lack of deficiency/hygienic needs cannot be compensated for by growth/motivating needs (van Raaij & Wandwossen, 1978).

These early theories of a two-factor model of consumer psychology and decision-making developed into later discussions of utilitarian versus hedonic consumption experiences (Hirschman & Holbrook, 1982). Utilitarian consumption experiences are those that are engaged for “objective, functional, and instrumental benefits” while hedonic consumption experiences are those that are engaged for “subjective, psychological benefits” (Holbrook & Hirschman, 1982, as cited in Ladhari, Souiden, and Dufour, 2017). In other words, utilitarian consumption experiences are understood to be “function-seeking” while hedonic consumption experiences are “pleasure-seeking.” The main distinction made between these consumption experiences and the previous consumer decision models is the inclusion of emotion (Hirschman & Holbrook, 1982). Hirschman and Holbrook leaned on the work of Plato to highlight a suite of capabilities that makes humans unique: cognition (knowing), emotion (feeling), and conation (willing) (Hirschman & Holbrook, 1982). Two factor models accounted for cognition and conation, but not emotion, a factor that Hirschman and Holbrook accurately hypothesized as a contributing factor in consumer intentions (Bigné, Anna, Mattila, & Andreu, 2008; Koenig-Lewis & Palmer, 2014; Ladhari, 2009; Ng & Russell-Bennett, 2015) and consumer satisfaction (Dubé & Menon, 1998; Kwortnik & Ross, 2007; Ladhari, Souiden, & Ladhari, 2011; Ladhari & Rigaux-Bricmont, 2013; Ng & Russell-Bennett, 2015), including in healthcare (Dubé, Bélanger, & Elyse, 1996; McColl-Kennedy, Danaher, Gallan, Ordinger, Lervik-Olsen, & Verma, 2017).

Health as a Good/Service

In order to understand health as a good or service consumed by patients, it is most helpful to start with consumer behavior’s roots in economics. As scholar Michael Grossman explained, “health can be viewed as a durable capital stock that produces an output of healthy time” (Grossman, 1972). He goes on to explain that a person’s stock is the result of investments they

make in themselves that can be transformed into productivity or perceived utility. In healthcare, therefore, patients are not consuming medical services, but rather seeking to consume “good health” (Grossman, 1972) which allows them to realize social value (Radley, 1994) and in turn, economic value.

While this definition aides in the conceptual understanding of the healthcare consumption mechanism, it lacks the psychological and sociological elements of “good health” that can provide further insight into the diversity of consumer goals, needs, or wants that allow for operationalization, engagement, and delivery of value. In that vein, one of the most widely adopted operational definitions of health is taken from the preamble to the constitution of the World Health Organization (WHO) and it states that health is a “state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity” (World Health Organization [WHO], 1946). This definition gained popularity for broadening the definition of health to include mental and social well-being when historically, the definition had been limited to physical illness or disease (Topol, 2015). In addition, the WHO definition foreshadowed what other scholars would come to define as a health continuum.

In 1977, Dr. JW Travis introduced the Illness/Wellness Continuum. This concept of health presented reactive and proactive orientations to health and incorporated the concept of wellness or thriving at the opposite end of the spectrum from illness or death. As Dr. Travis explained, “Wellness is a state of being, an attitude and an ongoing process, not a static state which we reach and never have to consider again...there are degrees of wellness as there are degrees of illness” (Travis, 1984). Dr. Travis’s assertion of health aligns to the consumer psychology theories of deficiency/hygienic needs (the left side of the continuum) and growth/motivating needs (the right side of the continuum). This concept also aligns to what is

often called “acuity” in medicine, or the ranging severity of patients’ illnesses and the level of care needed as a result (Taber’s Medical Dictionary, 2021). Whereas medical communities often deal only in the illness and treatment portion of the continuum, Dr. Travis’s framework presented a complete view of the additive versus subtractive aspects of health as capital stock and the means by which health consumers achieve “good health” or “healthy time” (Grossman, 1972).

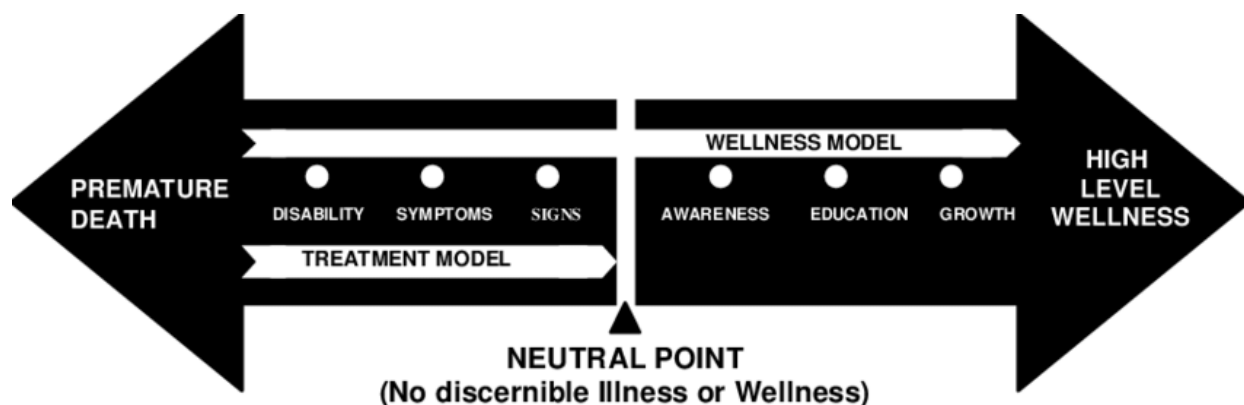


Figure 1. Illness/Wellness Continuum, JW Travis, 1977

In recent years, scholars have further developed the definition of health aiding in the understanding of how health consumers move through the phases of wellness and what services motivate their co-production of health improvement. In this new model of health, which has been described as a “move from wellness to well-being” (Serxner, 2017), healthcare scholars and practitioners have begun to build out the conceptualizations of mental and social well-being to incorporate concepts of self-actualization (Maslow, 1943), life purpose (Ryff, 2017), respect (Tay & Diener, 2011), happiness (VanderWeele, McNeely, Koh, 2019), and character (VanderWeele et al, 2019) among others. Life purpose research, for example, has demonstrated impacts on health outcomes such as mortality (Boyle, Barnes, Buchman, & Bennett. 2009; Hill & Turiano, 2014; Alimujiang, Wiensch, Boss, Fleischer, Mondul, McLean, Mukherjee, &

Pearce, 2019), diabetes (Rasmussen, Smith, Maxson, Bernard, Cha, Agenter, & Shah, 2013), cardiovascular events (Kim, Sun, Park, Kubzansky & Peterson, 2012; Cohen, Bavishi, & Rozanski, 2016), stroke (Kim, Sun, Park & Peterson, 2013), and Alzheimer's (Boyle, Buchman, Barnes, & Bennett, 2010) as well as demonstrating a greater likelihood for the health consumer to engage in positive and preventative health behaviors (Boyle, Buchman, & Bennett, 2010; Kim, Stretcher, & Ryff, 2014). Thus, the definition of health, our understanding of its breakdown, and the process by which we heal has evolved to a more holistic model including mental and emotional well-being, representing a more complete spectrum of health.

Health Consumers and Health Consumer Segments

Within healthcare, concepts of consumer behavior have lagged behind other industries because the economic value of healthcare has historically been seen as the unidirectional delivery of a product. Physicians were considered omnipotent masters of medicine who were to provide undisputed treatments (Topol, 2015). The patient, therefore, was seen as a passive recipient (Berry & Bendapudi, 2007; Lorig & Holman, 2003). In the last three decades, however, that perspective has started to change (McColl-Kennedy, Snyder, Elg, Witell, Helkkula, Hogan, & Anderson, 2017). Practice models such as Relationship-centered Care (RCC) (Pew-Fetzer Task Force, 1994), Patient-centered Care (PCC) (Berghout, van Exel, Leensvaart & Cramm, 2015) and health care customer value co-creation frameworks (McColl-Kennedy, Vargo, Dagger, Sweeney, & van Kasteren, 2012) have highlighted the role of the patient as an active consumer of health and wellness services, calling for a shift in perspective and a focus on consumerism.

One of the first and most influential papers to explore the unique nature of health consumption, health service delivery and the orientation of the health consumer was a paper by

Berry and Bendapudi (2007) in which the authors highlighted the unique orientation of health consumers as sick, reluctant and vulnerable (Berry & Bendapudi, 2007). This concept of the “reluctant consumer” has been further validated by research stating that patients approach health services as more of an obligation than a choice (MacGregor & Wathen, 2014) and that the risk or potential consequences of consuming health services are a deterrent (Vogus & McClellan, 2016). These findings are important in service research because early work in the space identified that the role of the customer should be a dominant factor in aligning the right service design (Chase & Tansik, 1983). Therefore, the orientation of patients as reluctant consumers should impact health service and experience design.

In 2017, McColl-Kennedy et al. wrote one of the most comprehensive papers to date on the changing role of the health consumer. In it, they identified large gaps in our understanding of how healthcare organizations can better understand the roles of the health consumer, what effects result from changing health consumer roles, and how to manage co-creative health practices effectively (McColl-Kennedy et al, 2017). In the process of identifying these gaps, the authors noted work outside of service operations that could serve as a starting point. Fields such as medical sociology, anthropology, and psychology can offer insight through concepts such as the Health Belief Model (Becker, 1974), the Theory of Reasoned Action (Fishbein & Ajzen, 1975), the Theory of Planned Behavior (Ajzen, 1991), models of easy-right-action (Levanthal, Singer & Jones, 1965), and identity/psychological ownership (Radley, 1994; Karnilowicz, 2011).

Beyond these broad theories of health consumer engagement, behavioral segmentation models are not common in healthcare (Bloem, Stalpers, Greenland, van Montfort, van Raaij, & de Rooij, 2020). Segmentation, which is a means of identifying distinct groups according to their market needs and aligning supply and demand accordingly to drive value (Steenkamp &

Hofstede, 2002; Aaker, & Moorman, 2017), is a generally accepted practice in other industries. In healthcare, however, segmentation is only employed biomedically, to segment patients according to therapeutic domain or stage of development of a disease (Bloem, Stalpers, Greenland, van Montfort, van Raaij, & de Rooij, 2020). This approach, while necessary for triage and treatment plans, is a remnant of healthcare's unidirectional history. It considers the needs of the provider and the organization, but negates the needs and preferences of the patient as co-producer of their health.

As the role of the health consumer has shifted in the last two decades (McColl-Kennedy, et al., 2017), so, too, has the perspective on the value of segmentation in health industries. Some of the first scholars to address the need for psychological and motivational segmentation in health fields were wellness tourism scholars (Mueller & Kaufmann, 2000; Chen, Prebensen, & Huan, 2008; Voigt, Brown, & Howat, 2011; Chen, Liu, & Chang, 2013). A seminal paper by Mueller and Kaufmann (2000) was not only at the forefront of expanding the definition of wellness to include mind/body/spirit, context/environment, and consumer self-responsibility, but it was also at the forefront of defining health consumer segmentation. Mueller and Kaufmann insisted on a difference between “wellness” and “cure” guests and called for the design of differentiated health experiences to serve them (Mueller and Kaufmann, 2000).

Within the healthcare industry, the most extensive academic research on segmentation has come out of the fields of health communication and health promotion (Wolff, Massett, Maibach, Weber, Hassmiller, & Mockenhaupt, 2010; Kannan & Veazie, 2015; Cohn, Lyman, Broshek, Guterbrock, Hartman, & Kinzie, 2017). These segmentation models have begun to look at behavioral preferences such as health consumer orientation to their health (active vs. passive) and health consumers' degree of independence in decision-making (independent vs. dependent)

(Wolff, Massett, Maibach, Weber, Hassmiller, & Mockenhaupt, 2010) as a way to drive patient engagement and patient activation to achieve better health outcomes (Hibbard & Greene, 2013; James, 2013; Strickhouser, Ethan, & Zlatan, 2017). The most advanced psycho-behavioral segmentation models, however, have been generated out of the industry. Organizations such as C2B Solutions (now PatientBond) and Nielsen, have started to apply their marketing and media segmentation models to health environments, exploring additional psycho-behavioral variables such as family vs. self-motivated, future vs. present health orientation, and objective vs. subjective health solutions preference (C2B Solutions, 2017).

Methods

This study was conducted using 2018 survey data provided by Canyon Ranch's guest satisfaction vendor, J.D. Power. The data represents the first full year of a formal guest satisfaction survey program at Canyon Ranch and, at the time, the survey program only incorporated Canyon Ranch's two, main, wellness resorts: Tucson, AZ and Lenox, MA. The survey was designed as a post-departure experience assessment and, therefore, surveys are sent to Canyon Ranch guests via email after check-out and upon completion of their visit.

The survey is comprised of 19 questions developed in line with JD Power & Associates' customer satisfaction research and reported according to their proprietary customer satisfaction index (100-1000 scale). Two main experience evaluation constructs were included in the survey: overall satisfaction and likelihood to return. Eleven experience dimension questions were asked. Eight of them were representative of the foundational elements of all Canyon Ranch guests' experiences and were thus required of all participants. Therefore, these eight experience dimensions were used for the data analysis. They were: arrival satisfaction, guest room

satisfaction, food and beverage satisfaction, facilities satisfaction, services and programs satisfaction, staff satisfaction, departure satisfaction, and overall cost satisfaction.

Additionally, seven potential visit purpose segments (consumption goals) were presented in the survey for guest self-selection. They were: address a specific wellness issue; healthy vacation - food and fitness; life transition; personal growth - new perspectives, spirituality; restore - rest and relax; vacation with family or friends; and explore new approaches in wellness. Guests were also offered an “other” category should one of those seven not align to their visit purpose.

The visit purpose categories were developed by Canyon Ranch and integrated into the survey prior to the partnership with the Cornell research team. They are based on Canyon Ranch’s experiential knowledge of their guest profiles and were intended to gain insight into guest motivation and intention for their stay. According to Canyon Ranch leadership, two purpose categories (address a specific wellness issue and life transition) were intended to represent the new, reactive, “cure” consumer, while the other five purpose categories represent the traditional, proactive, “wellness” consumer. The ability to explore these distinct motivations within the same wellness resorts, offered the researchers the opportunity to explore “wellness” (low acuity) and “cure” (high acuity) segments while holding the fundamental experience constant. A copy of the survey questions is included in Appendix A.

The data set also included three basic stay categories that were pulled out of the guest’s reservation profile through the associated confirmation number. Those categories were: stay dates, location, and visit status. Table 1 outlines the key survey variables, definitions, value ranges/coding schemes, and distributions.

Variable	Variable Qualities				
	Definition	Range	Value Range/Code	Count	%
Location	Resort at which the guest stayed.			4487	100%
Resort visited	Guest stayed at Canyon Ranch Tucson.	Tucson Lenox	1 0	2,091 2,396	46.6% 53.4%
Visit Status	Whether the guest was new to Canyon Ranch or had been before.			4487	100%
New vs. returning	Guest is new to Canyon Ranch.	New Repeat	1 0	1,661 2,826	37.0% 63.0%
Visit Purpose	The reason the guest stated as their primary purpose for the visit.			4487	100%
Address a specific wellness issue	Guest's primary purpose for their visit was to address a specific wellness issue.	Not primary purpose Primary purpose	1 0	182	4.1%
Healthy vacation - food and fitness	Guest's primary purpose for their visit was a healthy vacation with access to nourishing food and fitness opportunities.	Not primary purpose Primary purpose	1 0	1577	35.1%
Life transition	Guest's primary purpose for their visit was support working through a life transition (e.g. divorce, death of a friend/family member).	Not primary purpose Primary purpose	1 0	109	2.4%
Personal growth - new perspectives, spirituality	Guest's primary purpose for their visit was personal growth and the opportunity to work on themselves and their spirituality.	Not primary purpose Primary purpose	1 0	252	5.6%
Restore - rest & relax	Guest's primary purpose for their visit was to rest and relax.	Not primary purpose Primary purpose	1 0	1161	25.9%
Vacation with family or friends	Guest's primary purpose for their visit was a vacation focused on time with family and friends.	Not primary purpose Primary purpose	1 0	957	21.3%
Explore new approaches in wellness	Guest's primary purpose for their visit was to explore new wellness offerings.	Not primary purpose Primary purpose	0 0	249	5.5%
Experience Dimension Satisfaction Ratings	Guests' stated satisfaction with various experience dimensions, weighted by JD Power & Associates to create an importance-performance satisfaction index.			4487	100%
Arrival satisfaction	Guest satisfaction with the arrival experience.	JD Power & Associates Satisfaction Index Rating	100-1000	4487	100.0%
Room satisfaction	Guest satisfaction with the rooms.	JD Power & Associates Satisfaction Index Rating	100-1000	4487	100.0%
Food & beverage satisfaction	Guest satisfaction with the food and beverage offerings.	JD Power & Associates Satisfaction Index Rating	100-1000	4487	100.0%
Facilities satisfaction	Guest satisfaction with the facilities.	JD Power & Associates Satisfaction Index Rating	100-1000	4487	100.0%
Services & programs satisfaction	Guest satisfaction with the services and programs offerings.	JD Power & Associates Satisfaction Index Rating	100-1000	4487	100.0%
Staff satisfaction	Guest satisfaction with the staff.	JD Power & Associates Satisfaction Index Rating	100-1000	4487	100.0%
Departure satisfaction	Guest satisfaction with the departure experience.	JD Power & Associates Satisfaction Index Rating	100-1000	4487	100.0%
Cost satisfaction	Guest satisfaction with the overall cost of the experience.	JD Power & Associates Satisfaction Index Rating	100-1000	4487	100.0%

Table 2. Analysis variable descriptions

The 2018 Canyon Ranch survey program captured 4,664 responses across the two properties. However, 177 responses selected “other” as their “visit purpose,” which was a required field for this research. Therefore, those 177 were omitted and 4,487 records were used for the data analysis. It is of note that the sample is close to evenly split between Tucson (46.6%)

and Lenox (53.4%) with more repeat guests (63.0%) than new (37.0%). To reiterate, the following two research questions anchored this study:

1) Do health consumers with divergent health goals assess their overall experiences differently?

1) Do health consumers with divergent health goals assess experience dimensions differently?

Divergent health goals were represented by the “visit purpose” category in the survey. Of the seven visit purpose options, healthy vacation - food and fitness (35.1%), restore - rest & relax (25.9%), and vacation with family or friends (21.3%) were the three largest segments represented in the data. Life transition was the smallest (2.4%).

Guest assessments of their experience were represented by overall satisfaction (OSAT) and likely to return (LR). Both metrics were tested to explore what previous literature posited are two different constructs of experience gratification. OSAT, as a satisfaction construct, is understood as a passive assessment of historical experiences. LR, as a behavioral loyalty construct, is understood as an active assessment of future engagement (Fredericks, Hurd, & Salter, 2001). Therefore, these two constructs may have the potential to express unique drivers and relationships with experience dimensions (Cheng, Yang, & Chiang, 2003).

Regression was chosen as the method of analysis given our interest in the relationship between health consumption goals and experience assessment. Linear regression was chosen due to the nature of J.D. Power’s indexed OSAT data which created a continuous dependent variable. LR was not indexed and thus still reported as a four-point Likert scale, however linear regression was used for LR models as well given research demonstrating that basic analysis of Likert data

using parametric and non-parametric methods returned equally accurate results (de Winter & Dodou, 2010). Furthermore, the research intention of association not prediction combined with the large sample size, supported the use of parametric methods in this instance.

Two sets of multiple linear regression analyses were run. In the first analysis (Model 1- Model 4), OSAT and LR were regressed on resort location (Tucson/Lenox), visit status (new/repeat), and visit purpose (7 health consumption goals) to explore the association of visit purpose (consumption goal) versus other explanatory variables. In the second analysis (Model 5 - Model 8), OSAT and LR were regressed on the experience dimension satisfaction ratings and interactions with visit purpose to explore the association of visit purpose's interaction with the guests' assessments of experience dimensions.

Results

Health Consumption Goal Influence on Experience Gratification

Table 2 contains a summary of the multiple linear regression models explored to address the first research question relating to the association between visit purpose and the two experience gratification metrics, OSAT and LR (Model 1- Model 4). Location and visit status were also included in this first set of regression models to test alternative explanations of experience gratification alongside visit purpose.

Model #	Model	R Square	Significance
Model 1	Overall Satisfaction (OSAT) regressed on location, visit status, and visit purpose	0.002	0.244
Model 2	Likely to Return (LR) regressed on location, visit status, and visit purpose	0.052	.000***
Model 3	Likely to Return (LR) regressed on location, visit status, visit purpose, location*visit status, location*visit purpose, and visit status*visit purpose	0.055	.000***
Model 4	Likely to Return (LR) regressed on location, visit status, visit purpose, location*visit status, location*visit purpose, visit status*visit purpose, and location*visit status*visit purpose	0.055	.000***

Table 2. Research question 1 model summary

As shown in the table, the OSAT model was not significant when regressed on location, visit status, and visit purpose. LR, however, was significant. This preliminary result supports previous research stating that these two gratification metrics represent different constructs. As expected, the two-way and three-way interaction LR models (Model 3 and Model 4) were both found to be significant, however, R squares were notably small. This indicates a more complex explanation of LR than the model tested and emphasizes our ability to infer a general sense of association but not prediction.

Table 3 displays the results of the three, significant LR models (Model 2, Model 3, and Model 4).

Predictor (degree of freedom)	Model 2: Likely to Return		Model 3: Likely to Return, Two-Way Interactions		Model 4: Likely to Return, Three-Way Interactions	
	Standardized Beta Coefficient	Significance	Standardized Beta Coefficient	Significance	Standardized Beta Coefficient	Significance
Location						
Tucson	0.036	0.014*	-0.024	0.704	0.040	0.647
Visit Status						
New	-0.200	0.000***	-0.237	.000***	-0.176	0.037*
Visit Purpose						
Address a specific wellness issue	0.040	0.032*	0.005	0.886	0.016	0.655
Healthy vacation - food and fitness	-0.066	0.040*	-0.096	0.070	-0.071	0.238
Life transition	0.007	0.681	0.006	0.857	0.008	0.841
Personal growth - new perspectives, spirituality	0.012	0.548	-0.025	0.480	-0.001	0.971
Restore - rest & Relax	-0.060	0.046*	-0.075	0.129	-0.041	0.460
Vacation with family or friends	-0.107	0.000***	-0.119	0.011*	-0.098	0.063
Location*Visit Status						
Tucson*New			0.040	0.089	-0.058	0.537
Location*Visit Purpose						
Tucson*Address a specific wellness issue			0.024	0.409	0.004	0.907
Tucson*Healthy vacation - food and fitness			0.042	0.421	-0.004	0.960
Tucson*Life transition			-0.011	0.673	-0.017	0.684
Tucson*Personal growth - new perspectives, spirituality			0.023	0.470	-0.013	0.773
Tucson*Restore - rest & relax			0.023	0.564	-0.029	0.605
Tucson*Vacation with family and friends			0.017	0.660	-0.014	0.799
Visit Status*Visit Purpose						
New*Address a specific wellness issue			0.032	0.179	0.016	0.638
New*Healthy vacation - food and fitness			0.007	0.859	-0.026	0.660
New*Life transition			0.014	0.630	0.007	0.873
New*Personal growth - new perspectives, spirituality			0.034	0.183	0.000	0.992
New*Restore - rest & relax			-0.004	0.920	-0.057	0.321
New*Vacation with family and friends			-0.002	0.951	-0.032	0.546
Location*Visit Status*Visit Purpose						
Tucson*New*Address a specific wellness issue					0.023	0.510
Tucson*New*Healthy vacation - food and fitness					0.051	0.414
Tucson*New*Life transition					0.012	0.778
Tucson*New*Personal growth - new perspectives, spirituality					0.049	0.229
Tucson*New*Restore - rest & relax					0.074	0.166
Tucson*New*Vacation with family and friends					0.039	0.451

Table 3. OSAT and Likely to Return regressed on location, visit status, and visit purpose

As shown, LR was associated with location, visit status, and four of the six visit purposes in Model 2. Notably, LR has a negative association with visit status (new guests) as well as three of the four visit purpose categories. Model 3 and Model 4 did not return any new insights.

Health Consumption Goal Interaction with Experience Dimensions to Influence Experience Gratification

Table 4 contains a summary of the relevant multiple linear regression models explored in order to address the second research question relating to the association between the interaction of experience dimension satisfaction and visit purpose with the two experience gratification metrics. (Model 5 - Model 8).

Model #	Model	R Square	Significance
Model 5	Overall Satisfaction (OSAT) regressed on experience dimension satisfaction ratings	0.990	.000***
Model 6	Overall Satisfaction (OSAT) regressed on on experience dimension satisfaction ratings and experience dimension satisfaction ratings*visit purpose	0.990	.000***
Model 7	Likely to Return (LR) regressed on on experience dimension satisfaction ratings	0.275	.000***
Model 8	Likely to Return (LR) regressed on on experience dimension satisfaction ratings and experience dimension satisfaction ratings*visit purpose	0.288	.000***

Table 4. Research question 2 model summary

As demonstrated in the table, all four models proved significant, indicating an association between experience dimension satisfaction and both OSAT and LR. The R square for OSAT and LR are dramatically different, however, further supporting the argument that these two metrics represent different constructs. Furthermore, the extremely high R square of 0.990 for OSAT indicated a concern of multicollinearity. Therefore, the following correlation matrix was used as a check (Table 5).

#	Variables	Variable Numbers								
		1	2	3	4	5	6	7	8	9
1	Overall satisfaction	1								
2	Arrival satisfaction	0.623	1							
3	Room satisfaction	0.715	0.399	1						
4	Food & beverage satisfaction	0.717	0.378	0.456	1					
5	Facilities satisfaction	0.791	0.47	0.675	0.527	1				
6	Services & programs satisfaction	0.763	0.427	0.444	0.483	0.53	1			
7	Staff satisfaction	0.683	0.491	0.426	0.486	0.511	0.56	1		
8	Departure satisfaction	0.718	0.507	0.436	0.424	0.499	0.467	0.544	1	
9	Cost satisfaction	0.747	0.366	0.402	0.409	0.468	0.478	0.465	0.439	1

Table 5. OSAT and experience dimension satisfaction rating correlation matrix

The correlation matrix returned only mid-range correlations between each of the experience dimensions and OSAT. Thus, we rejected the concern of multicollinearity and proceeded with the analysis.

Table 6 displays the results of the multiple linear regression models that tested experience dimension satisfaction (Model 5, Model 6, Model 7 and Model 8).

Predictor (degree of freedom)	Model 5:		Model 6:		Model 7:		Model 8:	
	OSAT		OSAT, Two-Way Interactions		Likely to Return		Likely to Return, Two-Way Interactions	
	Standardized Beta Coefficient	Significance	Standardized Beta Coefficient	Significance	Standardized Beta Coefficient	Significance	Standardized Beta Coefficient	Significance
Experience Dimension Satisfaction Ratings								
Arrival satisfaction	0.095	.000***	0.108	.000***	0.013	0.427	0.105	0.110
Room satisfaction	0.164	.000***	0.172	.000***	0.012	0.482	-0.028	0.733
Food & beverage satisfaction	0.200	.000***	0.195	.000***	0.084	0.000***	0.086	0.265
Facilities satisfaction	0.175	.000***	0.142	.000***	0.074	0.000***	-0.051	0.521
Services & programs satisfaction	0.227	.000***	0.229	.000***	0.057	0.001**	0.214	0.001**
Staff satisfaction	0.021	.000***	0.037	.000***	0.218	0.000***	0.176	0.049*
Departure satisfaction	0.185	.000***	0.200	.000***	0.021	0.215	0.019	0.796
Cost satisfaction	0.283	.000***	0.280	.000***	0.201	0.000***	0.120	0.056
Experience Dimension Satisfaction Ratings*Visit Purpose								
Arrival satisfaction*Address a specific wellness issue			-0.067	0.001**			-0.182	0.284
Arrival satisfaction*Healthy vacation - food and fitness			-0.065	0.066			-0.493	0.105
Arrival satisfaction*Life transition			-0.010	0.645			0.096	0.594
Arrival satisfaction*Personal growth - new perspectives, spirituality			-0.023	0.287			-0.224	0.233
Arrival satisfaction*Restore - rest & Relax			-0.045	0.175			-0.438	0.125
Arrival satisfaction*Vacation with family or friends			-0.042	0.179			-0.216	0.426
Room satisfaction*Address a specific wellness issue			-0.025	0.178			0.060	0.712
Room satisfaction*Healthy vacation - food and fitness			-0.017	0.586			0.086	0.745
Room satisfaction*Life transition			-0.024	0.122			0.165	0.220
Room satisfaction*Personal growth - new perspectives, spirituality			-0.031	0.137			0.129	0.470
Room satisfaction*Restore - rest & Relax			-0.005	0.856			0.188	0.453
Room satisfaction*Vacation with family or friends			-0.043	0.129			0.068	0.779
Food & beverage satisfaction*Address a specific wellness issue			0.022	0.261			0.047	0.777
Food & beverage satisfaction*Healthy vacation - food and fitness			0.034	0.258			-0.050	0.850
Food & beverage satisfaction*Life transition			0.045	0.020*			-0.001	0.998
Food & beverage satisfaction*Personal growth - new perspectives, spirituality			-0.012	0.516			-0.050	0.760
Food & beverage satisfaction*Restore - rest & Relax			0.018	0.536			0.022	0.930
Food & beverage satisfaction*Vacation with family or friends			-0.002	0.942			0.028	0.901
Facilities satisfaction*Address a specific wellness issue			0.064	0.016*			0.513	0.025*
Facilities satisfaction*Healthy vacation - food and fitness			0.121	0.006**			0.598	0.113
Facilities satisfaction*Life transition			0.046	0.050*			0.079	0.697
Facilities satisfaction*Personal growth - new perspectives, spirituality			0.113	0.000***			0.261	0.270
Facilities satisfaction*Restore - rest & Relax			0.127	0.002**			0.436	0.222
Facilities satisfaction*Vacation with family or friends			0.187	0.000***			0.576	0.092
Services & programs satisfaction*Address a specific wellness issue			0.012	0.515			-0.414	0.011*
Services & programs satisfaction*Healthy vacation - food and fitness			-0.003	0.923			-0.510	0.055
Services & programs satisfaction*Life transition			-0.015	0.487			-0.289	0.114
Services & programs satisfaction*Personal growth - new perspectives, spirituality			-0.013	0.554			-0.284	0.132
Services & programs satisfaction*Restore - rest & Relax			-0.023	0.429			-0.467	0.064
Services & programs satisfaction*Vacation with family or friends			-0.01	0.719			-0.723	0.003**
Staff satisfaction*Address a specific wellness issue			-0.006	0.736			-0.026	0.856
Staff satisfaction*Healthy vacation - food and fitness			-0.031	0.261			0.109	0.652
Staff satisfaction*Life transition			-0.052	0.009**			0.001	0.996
Staff satisfaction*Personal growth - new perspectives, spirituality			-0.001	0.972			0.123	0.440
Staff satisfaction*Restore - rest & Relax			-0.049	0.059			0.072	0.748
Staff satisfaction*Vacation with family or friends			-0.052	0.031*			0.089	0.670
Departure satisfaction*Address a specific wellness issue			-0.018	0.170			0.08	0.479
Departure satisfaction*Healthy vacation - food and fitness			-0.043	0.065			0.074	0.712
Departure satisfaction*Life transition			-0.001	0.958			-0.194	0.139
Departure satisfaction*Personal growth - new perspectives, spirituality			-0.025	0.075			0.055	0.653
Departure satisfaction*Restore - rest & Relax			-0.039	0.072			-0.015	0.936
Departure satisfaction*Vacation with family or friends			-0.021	0.311			-0.105	0.561
Cost satisfaction*Address a specific wellness issue			0.017	0.134			-0.028	0.771
Cost satisfaction*Healthy vacation - food and fitness			0.006	0.746			0.198	0.215
Cost satisfaction*Life transition			0.009	0.406			0.133	0.175
Cost satisfaction*Personal growth - new perspectives, spirituality			-0.008	0.531			0.015	0.889
Cost satisfaction*Restore - rest & Relax			0.021	0.245			0.19	0.213
Cost satisfaction*Vacation with family or friends			-0.011	0.517			0.236	0.095

Table 6. OSAT and Likely to Return regressed on experience dimension satisfaction ratings and visit purpose

As shown, OSAT demonstrates a significant association with all eight dimensions (Model 5) whereas LR only demonstrates a significant association with five out of the eight (Model 7). Of note are the lack of association between LR and both arrival satisfaction and departure satisfaction. It is also of note that all main effects are positive.

Model 6 and Model 8 were those in which visit purpose was introduced as an interaction effect. In those models, visit purpose revealed several significant interaction effects with both OSAT and LR. Within the OSAT construct (Model 6), the interaction of facilities satisfaction with all visit purposes was significant with positive association. Staff satisfaction's interaction with life purpose and vacation with family and friends returned a significant negative association as did arrival satisfaction with addressing a specific wellness issue. Food and beverage satisfaction only proved a significant association when interacting with life transition.

Within the LR construct (Model 8), fewer interaction effects proved significant and the addition of interaction effects dampened the main effects. The interaction of facilities satisfaction with addressing a specific wellness issue continued to have a significant positive association, however, the LR construct introduced significant negative associations within the services and programs satisfaction dimension. The interaction of services and programs satisfaction with addressing a specific wellness issue and vacation with family and friends proved to have significant negative associations with LR.

Discussion

This study leveraged the unique business model of Canyon Ranch Wellness Resorts to examine the link between health consumer segmentation and experience design. In 2001, the IOM called for more patient-centric, relationship-oriented health delivery models to address the

persistent challenges of achieving high-value healthcare in the U.S. Researchers have responded to this call, but they often examine the existing health system for opportunities to improve from within. This study, however, explored a non-traditional health services environment in an attempt to push the boundaries of our conceptualization of health and understand how best to serve health consumers across the wholistic illness/wellness continuum to drive more engaging health experiences.

The first finding from this study was the confirmation that metric choice and construct validity are important concerns in the realm of health consumer segmentation and experience design. Past research has shown that constructs of satisfaction (OSAT) are historical assessments while constructs of loyalty (likelihood to return or likelihood to recommend) are future assessments. Satisfaction with an experience does, in fact, have a significant and positive relationship with behavior intentions, however it is indirect through the relationship with perceived value and quality (He & Song, 2009). Therefore, it aligns that visit purpose (motivation segment) would have a significant association with LR, but not with OSAT because the visit purpose or consumption goal framed the health consumer's value orientation. In the realm of health and wellness where consistency and thus future behavior intentions are critical for sustainable wellness gains, differentiated associations with likelihood to return are important. This raises an important discussion about effective metric selection in health contexts.

The second finding from this study relates to the nature of the visit purpose associations with LR. Of the four significant associations, one visit purpose fell into Canyon Ranch's classification of their new, reactive, "cure" segment ('address a specific wellness issue), while the other three were classified as their traditional, proactive, "wellness" segments ('healthy vacation - food and fitness, restore - rest & relax, and vacation with family or friends). Of those

four significant associations, the “cure” segment was the only one with a positive association with LR, while the other three “wellness” segments had negative associations. Therefore, despite Canyon Ranch’s belief that they are designed for proactive, wellness guests and serve that segment most effectively, there is a possibility that they are actually better aligned to a “cure” orientation.

The third finding from this study relates to the nature of the associations between visit purpose/experience dimension interactions and OSAT. Interactions with facilities satisfaction proved to be significant and positive for all visit purposes, demonstrating that facilities and environment are satisfaction assessment criteria for all segments. Outside of facilities, the most interesting, significant associations were that of arrival satisfaction’/address a specific wellness issue’ and staff satisfaction’/life transition. Both associations were negative, indicating that the arrival experience and staff interactions were unsatisfying for “cure” guests. It is possible that while Canyon Ranch may have the functional capabilities that attract and satisfy “cure” guests, the human-centric service elements such as staff interactions and arrival orientation are where they fall down. Often, the illness side of the illness wellness continuum (physical or mental/emotional illness) is accompanied by a negative emotional load (Dubé, Bélanger, & Trudeau, 1996; Cook, Bowen, Chase, Dasu, Stewart, & Tansik, 2002; Berry & Bendapudi, 2007; McColl-Kennedy, Danaher, Gallan, Orsinger, Lervik-Olsen, & Verma, 2017) and even shame (Lazare, 1987; Harris & Darby, 2009; Dolezal & Lyons, 2017). Without proper training, that consumer orientation can prove challenging for most service workers.

Finally, this analysis adds to the conversation about how we should construct and use health segments to drive actionable implementation plans and thus more engaging health experiences. The visit purpose segments developed by Canyon Ranch indicate that consumers

tend to orient around deficiency needs ('address a wellness issue,' 'life transition') and hedonic needs ('healthy vacation - food and fitness,' vacation with family or friends', etc.) within each visit. However, given that health is dynamic and wellness goals shift, visit purpose may change upon subsequent stays, as it does in more traditional healthcare environments. The need for methods of segmentation that capture health consumer acuity and/or motivation before arrival while also allowing them to change dynamically with repeat visits over the course of their lifetime in order to "meet them where they are," build trusting relationships, and support behavior change is a worthy challenge for the next generation of health leaders.

Conclusion

Limitations

Canyon Ranch provided a unique opportunity to study the health consumer across the illness/wellness continuum. They were capturing data on experience gratification and health consumption goals (acuity segmentation) that was not available from any other health services organization. That said, this analysis was conducted with secondary data. The survey was not written with these research questions in mind, the results were processed through JD Power & Associates' propriety index, and the data did not include variables such as demographics that would have offered a more comprehensive analysis. Therefore, effect sizes were small and insights were limited. Additionally, the visit purpose categories were implemented before our partnership with Canyon Ranch. They were not grounded in research and were a single question self-report metric, introducing additional threats to construct validity. Therefore, it is important to acknowledge that this work was intended only to validate the line of inquiry around health consumer segmentation and propose an agenda for future research.

Future Research

Future research in this space should aim to further close the gap between health consumer segmentation and experience design. Expectation-value models and motivation-need theories have the potential to offer great insight into how health consumers engage with and “consume” health. However, models of expectation, motivation, and psycho-behavioral segmentation are only as useful as the actionable plans used to operationalize those constructs as experiences.

Within the realm of health consumer segmentation specifically, further research should focus on the unique elements of health as a consumption good and how that impacts the dimensions of segmentation that will be most effective in a health services context. For instance, as Hirschman and Holbrook acknowledged, models of segmentation are often devoid of an emotional dimension (Hirschman & Holbrook, 1982). In healthcare, where the product is personal and the risks are high, emotional load is a critical element of how consumers orient toward their experiences and engage with them.

One last area of research worth exploring is the need to understand new and innovative dimensions of experience design. On the heels of COVID-19, the health and wellness industry is delivering care through new modes and new venues. The pressure of a crisis forced creative solutions, including virtual care environments, communities as public health facilitators, and contactless connection. Many of these innovations will fundamentally change the variables of experience design and the ways in which we engage and build trusting, healing relationships in the future.

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CHAPTER 2

CLOSING THE KNOWING-DOING GAP: SERVICE OPERATIONS AND HEALTH CONSUMER EXPERIENCE

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Introduction

The advent of Value Based Care (VBC) in the U.S. healthcare system has put a spotlight on patient experience. In 2010, the Patient Protection and Affordable Care Act (PPACA) included VBC policies as part of the effort to shift healthcare from a focus on quantity of care to one of quality (Patient Protection and Affordable Care Act, 2010). As a result, the Centers for Medicare & Medicaid Services (CMS) determine federal reimbursement rates based on VBC programs, specifically, clinical performance and patients' perceptions of care.

The aspect of federal reimbursement that is focused on patients' perceptions of care has created both a moral and a financial incentive to study patient experience. To date, however, the most common understanding of how patients perceive their care is derived from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey (Centers for Medicare & Medicaid Services [CMS], 2017), which has been challenged for what is viewed as an insufficient representation of the holistic patient experience and the new healthcare ecosystem (Wolf, Niederhauser, Marshburn, & LaVela, 2014; Meyer, Hyder, Cole & Kamdar, 2016; Ranard, Werner, Antanavicius, Schwartz, Smith, Meisel, Asch, Ungar, & Merchant, 2016). Additionally, critics have scrutinized patient experience metrics more broadly for their inability to provide timely, actionable insights that drive operational changes to care delivery models (Marsh, Peacock, Sheard, Hughes, & Lawton, 2019, Meyer et al, 2016).

Furthermore, the state of disease in the U.S. has changed such that we are dying from illnesses that are more a product of lifestyle choices than environment (Hood, Gennuso, Swain, & Catlin, 2016) and which are often chronic in nature (Raghupathi & Raghupathi, 2018). This shift in disease state requires a healthcare model anchored around a higher level of accountability and engagement by the patient as well as longer-term, provider-patient relationships. Experience

design has been shown to elicit emotional connections, improve relational elements of a service, and increase loyalty behaviors (Pullman & Gross, 2004). However, to date, the unique dimensions of a healthcare service experience have not been well defined from a patient perspective nor translated to a services operating model that allows for the straightforward execution of relationship-centered, engaging healthcare experiences.

This paper applies both quantitative and qualitative research methods to the study of health consumer experience to better understand the breadth and depth of consumer perceptions of their care and the gap between experience analysis and operational execution. Key contributions of this work include: 1) an expanded list of patient experience dimensions 2) an operating model framework for health consumer experience, and 3) a proposal for further research to close the “knowing-doing problem” (Pfeffer & Sutton, 2000) in patient experience in the U.S.

Background

In 2002, CMS partnered with the Agency for Healthcare Research and Quality (AHRQ) to develop a standard for patient perceptions of hospital care to improve healthcare quality and accountability through a national, publicly reported metric. AHRQ conducted a rigorous scientific process including focus groups, psychometric analyses, and pilot testing to develop and test the measure. In 2006, CMS implemented the measure nationwide and the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) has been the standard measure of patient experience ever since.

As the industry standard, HCAHPS has come to define the way healthcare providers think about patient experience, but in recent years, its foundational construct has been

challenged. The measure is comprised of six composite topics (nurse communication, doctor communication, responsiveness of hospital staff, pain management, communication about medicines, and discharge information), two individual items (cleanliness of the hospital environment and quietness of the hospital environment), and two overall items (overall rating of the hospital and willingness to recommend the hospital) (CMS, 2018). Despite its rigorous method of scale development, however, HCAHPS has been criticized for its narrow focus on patient satisfaction in the inpatient setting instead of a broader focus on the holistic patient experience over time and across the continuum of care (Wolf et al., 2014). In addition, research has identified key gaps such as the positive dimension of a provider's ability to treat the patient with care and comfort (Ranard et al, 2016, Liu, Bozic, & Tiesberg, 2017), the negative dimension of cost and billing procedures (Ranard et al, 2016), and the nature of managing these dimensions in the unique, co-produced environment that is healthcare (Soklaridis, Ravitz, Nevo, & Lieff, 2016).

Furthermore, HCAHPS has been challenged for failing to achieve one of its key operational objectives which was to improve the quality of healthcare in the U.S. (CMS, 2018). At the time of HCAHPS inception, the U.S. was outperforming Organization for Economic Cooperation and Development (OECD) countries on healthcare by more than 4.0% of Gross Domestic Product (GDP) (OECD, 2019) and achieving an overall health system performance ranking of 37th out of 191 countries globally (World Health Organization, 2000). HCAHPS, therefore, was developed with the goal of assisting in the improvement of quality of care in the U.S. by creating a publicly reported feedback loop from patients to providers to improve consumer engagement in and public accountability toward quality efforts. As of 2018, however, the gap in average percentage of GDP spent on healthcare in OECD countries versus the U.S.

had increased to more than 10.0% and a recent report on health outcomes put the U.S. at a dismal ranking of 27th out of 195 countries (Lim, Updike, Kaldjian, Barber, Cowling, York, Friedman, Xu, Whisnant, Taylor, Leever, Roman, Bryant, Dieleman, Gakidou, & Murray, 2018).

A recent report by five major healthcare organizations confirmed that healthcare leaders are aligned on the need to modernize HCAHPS and represent a more comprehensive view of patient experience and the healthcare environment in order for it to be effective (American Hospital Association, America's Essential Hospitals, Association of American Medical Colleges [AAMC], Catholic Health Association of the United States, & Federation of American Hospitals, 2019). Healthcare researchers from the Department of Veterans Affairs have also highlighted that a primary hurdle to effective execution of patient experience and patient-centered care initiatives is the lack of a clear, comprehensive, and operationally specific definition of the terms (Fix, VanDeusen Lucas, Bolton, Hill, Mueller, LaVela & Bokhour, 2018). In other words, both industry and academia have revealed a “knowing-doing problem” in patient experience, better described as “the challenge of turning knowledge about how to enhance organizational performance into actions consistent with that knowledge” (Pfeffer & Sutton, 2000, p.4).

This apparent “knowing-doing problem” has inspired researchers to revisit patient experience anew. New research, including this work, is examining patient experience from a more holistic, human-centered, systems perspective. Industries such as hospitality, retail, and entertainment as well as fields of study such as consumer behavior, relationship marketing, service operations, organizational behavior, and systems thinking are lending a new perspective. The goal of this work is to develop a more comprehensive understanding of patient experience, articulated in a shared language with operations to facilitate more successful experience design, implementation, and management to co-produce better quality care and health outcomes.

Literature Review

Two primary challenges have been identified as hurdles in the successful implementation of patient experience initiatives:

- 1) the incomplete definition and understanding of patient **experience** as a construct and
- 2) the consistent challenge of organizations to translate that patient experience construct into **operations** initiatives to affect change.

The following sections explore the relevant literature in those two areas to better understand what we know about these challenges and how that research might be leveraged to close the “knowing-doing problem” in healthcare.

Experience Literature

AHRQ, the organization that partnered with CMS to develop HCAHPS, defines patient experience as “the range of interactions that patients have with the health care system, including their care from health plans, and from doctors, nurses, and staff in hospitals, physician practices, and other health care facilities” (Agency for Healthcare Research and Quality [AHRQ], 2017). The Beryl Institute, the preeminent patient experience practitioner organization, defines patient experience as “the sum of all interactions shaped by an organization’s culture that influence patient perceptions across the continuum of care” (Wolf et al, 2014). These definitions, while accurate, do not reflect the consumer behavior and services marketing research that may lend a deeper understanding of our consumption of goods and services and how that applies in healthcare.

Consumer experience was first conceptualized in 1982 by Holbrook and Hirschman who argued that the study of consumer behavior from an information processing perspective alone negated the multi-sensory and emotional nature of how people engage with certain consumption experiences (Holbrook & Hirschman, 1982). In 1986, they further developed the consumption experience paradigm as “an emergent property that results from a complex system of mutually overlapping interrelationships in constant reciprocal interaction with personal, environmental, and situational inputs” (Hirschman & Holbrook, 1986, p. 220). They argued that previous paradigms hinged on the false assumption that consumers are strictly rational beings and that they negated the influence of situational factors on consumption experiences. As a result, Hirschman and Holbrook developed the “TEAV” model that accounted for the consumer’s thoughts, emotions, activities, and values with strong consideration for how those elements interact with the context in which they were created (Hirschman & Holbrook, 1986).

More than a decade later, the experience paradigm had gained traction in the consumer marketing literature and influential contributions such as Carbone and Haeckel’s “Engineering Customer Experiences” (1994), Pine and Gilmore’s *The Experience Economy* (1999), and Schmitt’s “Experiential Marketing” (1999) aimed at further understanding experiences and developing conceptual frameworks for them. They introduced ideas such as sensory clue management, understanding “work as theater” in the shift from service to experience economy, and the notion of strategic experiential modules (SEMs) or those cognitive, emotional, behavioral, sensorial, and relational elements of the consumer experience that need to be strategically managed by the organization.

In the 1970s, increased manufacturing productivity created more disposable income for consumers to spend on non-tangible products, otherwise known as services (Sasser, Olsen, &

Wyckoff, 1978). Researchers who were interested in this new facet of the economy defined services as “facilitators of the consumption of a product” (Sasser, et al, 1978, p. 9) and began to wrestle with the definition and categorization of services and service quality. Services were a study of the interaction of producer and consumer within the broader consumption experience, especially in a consumption experience in which the predominant value driver was human-to-human interaction. In 1978, Sasser, Olson, & Wyckoff outlined four distinguishing characteristics of services, which were its intangibility, perishability, heterogeneity, and simultaneity (Sasser et al, 1978). They argued that these characteristics indicated the need for a new field of study and a new understanding of how to market, operate and manage services. Subsequent theories such as Service-Dominant Logic (Vargo & Lusch, 2004) and the Unified Service Theory (Sampson, 2010) argued varying perspectives on the right approach to a shift from product to service economy, but the foundation had been laid for the need to understand the distinct conceptualization of a human-produced and human-consumed value exchange across industries.

In 1988, Zeithaml, Parasuraman, and Berry, a three-person services research team, developed the SERVQUAL instrument as a means to measure the specific dimensions of customer perceptions and expectations that determine good service quality. SERVQUAL highlighted five core dimensions of a quality service interaction: tangibility, reliability, responsiveness, assurance, and empathy (Zeithaml, Parasuraman, and Berry, 1990) and researchers continue to build a catalogue of service dimensions in various industries. Some of this work included the importance of problem resolution and service recovery (Bitner, Booms, & Tetrault, 1990), personalization (Bitner et al, 1990), service environment or “servicescapes” (Bitner, 1992), cost (Berry, Carbone, & Haeckel, 2002), ease of use (Dixon, Freeman, & Toman,

2010), approachability of the service provider (Voutilainen, Pitkäaho, Kvist, & Vehviläinen-Julkunen, 2015), and control (Ponsignon, Smart, Williams, & Hall 2015). Leonard Berry, one of the researchers on the SERVQUAL team, was the first to argue for a deeper look at healthcare as a service (Berry & Bendapudi, 2007) in order to improve patient experiences overall.

During similar time periods, consumer behavior researchers and services marketing researchers were grappling with similar research questions: What is an experience and how do we design and manage them as they express themselves differently across industries? Interestingly, despite the use of different language, both fields converged on similar conclusions:

- that experiences are made up of cognitive, emotional, and behavioral elements
- that those cognitive, emotional, and behavioral elements are influenced by the worldview of the consumer as well as the broader societal context in which consumers find themselves
- that both the individual's context as well as the context of the experience (e.g., industry) influences the effective design and management of experiences and
- that experiences are co-produced systems in which the interrelationship of the elements and the reciprocal nature of the system cannot be ignored

These conclusions reflect many of the HCAHPS gaps that have been identified by patient experience researchers and healthcare practitioners.

Operations Literature

Healthcare organizations have not been remiss in thinking through patient experience implementation, operations, and audit frameworks. Planetree International, a patient-centered

care training and consulting organization, has worked with a model for patient-centered organizations since its inception in 1978 and continues to publish research on operational frameworks that support patient and family engagement (Frampton, Guastello, How, Naylor, Sheridan, & Johnson-Fleece, 2017). The Institute for Patient and Family Centered Care (IPFCC), a patient- and family-centered education and research organization, offers playbooks and service audit tools to support the industry in its implementation of patient and family experience cultures. In 2018, the Beryl Institute introduced a “Framework for Experience in Healthcare” (The Beryl Institute, 2018) that embraced a systems perspective to operationalizing patient experience and outlined eight focus areas for the development and execution of patient experience efforts:

1. culture & leadership
2. infrastructure & governance
3. patient, family, & community engagement
4. staff & provider engagement
5. environment & hospitality
6. innovation & technology
7. policy & measurement
8. quality & clinical excellence

These are all valuable tools and reflect the industry’s advancement in thinking over the years, but may be enhanced by the organizational behavior and systems thinking literature.

As far back as the 1950s, organizational behavior researchers have been trying to understand the mechanisms by which effective organizations execute on their goals, or solve “the knowing-doing problem” (Pfeffer & Sutton, 2000). Peter Drucker, often referred to as “the founder of modern management” (Denning, 2014), laid the foundation for discussions about the necessity of a clearly defined value proposition (Drucker, 1954) in order to drive effective implementation and goal achievement. Recent literature reflects on this value orientation by stating that “organizational design is affected by value configuration” (Fjeldstad and Snow, 2018). Therefore, no one organization design should be the same, but should be driven by the organization’s purpose and value proposition, an interesting observation in healthcare where patient experience principles are often blanketed across for-profit and non-profit hospitals, fee-for-service and value-based care payment models, and acute and chronic disease service models.

Michael Tushman and David Nadler are known in the field for highlighting the importance of organizational design, or the need to deliberately design an organization’s “architecture” to align to its value proposition and its place within both the industry and the societal context in which it exists (Nadler & Tushman, 1997). They defined the idea of “the congruence model,” or the notion of organizational “fit” and emphasized that the model “illustrates the critical role of interdependence within the system and places equal emphasis on the transformation process - the means by which the organization converts inputs into outputs.” (Nadler & Tushman, 1997, p. 28). The three primary dimensions of organizational architecture are structure, capacity, and performance (Nadler & Tushman, 1997), reflecting their understanding that there is a strategic, operational, and evaluation level to the organization and all elements must work in alignment to be effective.

In parallel with the work of Tushman and Nadler, organizational behavior researchers made another key advancement: the application of systems thinking to organizations (Senge & Sterman, 1992; Stacey, 2001). Systems thinking, or the understanding that in living systems “the properties of the parts can be understood only from the organization of the whole” (Capra & Luisi, 2014), broadened the understanding of organizations to be better understood as dynamic organisms whose efficacy depends predominantly on interdependence and feedback loops. As Capra and Luisi explain,

“Human organizations always contain both designed and emergent structures. The designed structures are the formal structures of the organization, as described in its official documents. The emergent structures are created by the organization’s informal networks and communities of practice. The two types of structures are very different...and every organization needs both kinds” (Capra & Luisi, 2014, p. 320)

Furthermore, many of the components of systems, including organizational systems, operate through the flow of information and therefore, feedback loops are the basic operating unit of a system (Meadows, 2008).

Organizational behavior and systems thinking researchers have contributed critical perspectives to the challenge of “the knowing-doing problem.” Namely,

1. the value proposition of an organization, in other words, “the purpose of the system,” is critical in the design of an effective organization
2. organizations are comprised of strategic, operational, and evaluation levels that require alignment and congruency for success

3. organizations need to be seen as dynamic, living systems in which both designed and emergent structures are managed by a shared language that facilitates the flow of information and measures that support feedback loops.

Literature Findings

A review of the literature in both experience design and operations management reveals helpful insights in the pursuit of re-defining and operationalizing patient experience. What has yet to be defined, however, is the intersection of those two fields. As stated in the systems literature, organisms operate through the flow of information and, therefore, if patient experience is either not well defined or does not share a language with operations, the two will continue to be disjointed. Thus, the pursuit of this work is to fill that gap in the patient experience literature and define patient experience in terms of organizational systems language that facilitates implementation and execution of better healthcare experiences and outcomes.

Methods

Given the explorative and generative nature of this research both qualitative and quantitative methods were used by means of survey data collected by the Survey Research Institute (SRI) at Cornell University and observational studies at three distinct health organizations. A multi-year research design was used for survey data collection to allow for the development of an operational patient experience framework using the first year of data (Year 1 - 2018) and validation of that framework using the second year of data (Year 2 - 2019). Observations at the three health organizations were completed between June 2018 and January 2019. Data from those observations was incorporated into the development of the Year 1 framework and validated with Year 2 coding.

Overall, three main methods were used in this paper: 1) content analysis 2) observation and 3) and generalized estimating equations (GEE). These three approaches allowed the researcher to explore patient and family experiences from a diversity of perspectives enabling triangulation of method (Lincoln & Guba, 1985) and, therefore, greater credibility. All methods were subjected to the ethical considerations of respect for persons, justice, and beneficence (Markham & Buchanan, 2015) and cleared with minimal risk. However, it is worth stating that the unique nature of healthcare experiences as deeply personal and often vulnerable encounters for the consumer indicated a higher level of vigilance by the research team and constant awareness of a patients' sense of privacy and level of emotional burden.

Qualitative Research | Survey Data Content Analysis

Content analysis for this study was a result of open-ended questions collected by the Survey Research Institute (SRI) at Cornell University as part of its annual surveys. The Empire State Poll (ESP) is a general survey of 800 adult New York State residents age 18 and older and consists of general economic and social questions (“core”) in addition to questions submitted by scholars (“omnibus modules”). The survey panels were the result of a dual-frame random digital dial sample of both cellular and land-line phone numbers in New York State and included both listed and unlisted households. Interviews were conducted in both English and Spanish using a Computer Assisted Telephone Interviewing (CATI) software system. Cooperation rates for 2018 and 2019 were 69.7% and 64.5%, respectively. Response rates for 2028 and 2019 were 21.0% and 13.9%, respectively (Survey Research Institute at Cornell University, 2018; Survey Research Institute at Cornell University, 2019). The respondent demographic profile for both years is shown follows:

Characteristics	ESP 2018 (n=800)	ESP 2019 (n=800)	U.S. Census
Age			
18-24	13.0%	12.0%	13.0%
25-34	14.0%	14.0%	18.0%
35-44	16.0%	18.0%	16.0%
45-54	19.0%	17.0%	18.0%
55-64	17.0%	19.0%	16.0%
65 and older	21.0%	21.0%	19.0%
Gender			
Male	50.0%	51.0%	48.0%
Female	50.0%	49.0%*	52.0%
Race			
White	68.0%	73.0%	64.0%
Non-White	32.0%	27.0%	36.0%
Ethnicity			
Hispanic (any race)	15.0%	16.0%	19.0%
Non-Hispanic	85.0%	84.0%	81.0%
Employment Status			
Employed	64.0%	59.0%	59.0%
Unemployed	18.0%	20.0%	8.0%
Not in labor force	18.0%	21.0%	33.0%
Annual Household Income		100.0%	100.0%
Less than \$10,000	3.0%	3.0%	8.0%
\$10,000-49,999	31.0%	30.0%	35.0%
\$50,000-99,999	38.0%	34.0%	28.0%
\$100,000 or more	29.0%	33.0%	29.0%
Education			
Less than Bachelor's Degree	54.0%	51.0%	65.0%
Bachelor's Degree or higher	46.0%	49.0%	35.0%

Table 1. Key Respondent Demographics for ESP 2018 and 2019 (% reported)

*0.3% responded other

A modified critical incident technique (CIT) (Flanagan, 1954, Bitner et al., 1990, Bitner, et al., 1994) was used to design two open-ended survey questions pertaining to patient experience:

- What was one thing that had a **positive** impact on your customer service experience during your most recent healthcare visit?
- What was one thing that had a **negative** impact on your customer service experience during your most recent healthcare visit?

CIT was designed as a technique for “direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles” (Flanagan, 1954, p. 327). It was later adapted to interviews for service

research that was aimed at understanding the elements of a service encounter that create positive and negative experiences (Bitner et al., 1990, Bitner et al., 1994). This study adapted CIT to a survey research format to develop a classification framework to support future observational research to support practical performance improvement (Flanagan, 1954) CIT's emphasis on exploring positive and negative aspects of consumer experiences in an effort to capture the full spectrum of experience dimensions and was well-aligned to the goals of this research. Content analysis and categorization of these answers into experience dimensions produced the foundational patient experience framework. A roll-up of those dimensions into operational categories produced what was later used as dependent variables in our GEE analysis.

Three Cornell researchers were involved in the coding of survey data and the development of the patient experience framework. Initially, researchers tried to apply the Strategic Experiential Modules (SEMs) framework (Schmitt, 1999) and the SERVQUAL framework (Zeithaml, Parasuraman, and Berry, 1990) to the first set of ESP 2018 data, but determined that the SEMs framework did not provide enough detail to be useful toward the research goal of operational categorizations and the SERVQUAL framework was not holistic enough to capture the full patient experience construct. These initial coding efforts were scrapped, but themes from each of these constructs are still evident in the final results.

Two rounds of coding were used to develop the final, independent experience framework. The first round of coding involved all researchers re-coding the data independently and developing their own categories. These categories were then compared, defined, and discussed to establish a preliminary framework hypothesis. On-site observational research at the three health organizations took place between the first round of coding and the second round of coding and informed the research team's second and final pass at the survey data analysis. Observational

research themes were discussed as a group and a revised framework was developed identifying categories that felt most relevant, comprehensive, and operationally actionable. The researchers aligned on these new dimensions, re-coded the pilot survey data, and reconciled their coding. The final coding scheme was then applied to the remaining Year 2 data and reconciled amongst the research team.

Qualitative Research | Observation

Three health and wellness organizations were engaged for the observational component of this research: The University of Texas at Austin's UT Health Austin clinics, Ronald McDonald House New York, and Canyon Ranch Wellness Resort. These organizations were selected from CIHF's affiliations in an effort to explore patient experiences across the healthcare/hospitality continuum. As the population shifts and we see more chronic disease management and a push toward integrated, well-being models, the healthcare ecosystem is responding and care is being delivered across a variety of service settings. These three organizations represent 1) a healthcare organization (UT Health Austin), 2) a hospitality organization (Canyon Ranch), and 3) a unique business model that is squarely in between the two (Ronald McDonald House New York). This diversity in healthcare experiences and service operations represents a sample that is reflective of the current state of healthcare and allowed for exploration of those healthcare experiences at three distinct service operations.

The three organizations were a convenience sample that were engaged as a result of researcher relationships. Two of the organizations (Ronald McDonald House New York and Canyon Ranch Wellness Resort) were Advisory Board Members at the Cornell Institute for Healthy Futures at the time. The third organization, UT Health Austin, was engaged as a result of the first author's previous interactions with their leadership team. Despite common criticism

surrounding opportunistic selection and concerns regarding bias, these organizations demonstrated an interest in new perspectives on health consumer experience design and a commitment to the research, both of which support the ultimate research goal of gathering the richest data possible (Lofland, Snow, Anderson, & Lofland, 2006).

Data collection at the three primary research sites included 36 hours of observation and participant observation across the three sites (18 hours at UT Health Austin, 14 hours at Ronald McDonald House New York, and four hours at Canyon Ranch). The majority of the observations occurred in the Spring 2019 semester, however, relationships with these organizations had been developed over the time period from Fall 2017 to Spring 2019 in an effort to build trust and recruit them as study sites.

Two of the coauthors completed all observations directly with 81% of observations being conducted by the first author alone. One or both of the researchers met the organization contact on site in the morning to align on important physical locations of observation as well as key experiential “moments of truth” (Carlzon, 1987) to observe. Researchers then split time between observing key service areas, shadowing service staff, and participating in activities alongside patients or guests. In the case of Ronald McDonald House New York and Canyon Ranch, researchers stayed on property overnight to ensure a comprehensive understanding of the total service offering and experience. The third site, UT Health Austin, is an outpatient clinic and therefore overnight service observation was not possible or necessary.

Observation notes were gathered chronologically and according to a salience hierarchy (Wolfinger, 2002). The researchers jotted notes regarding sensory details, events, and interactions. Verbatim comments were distinguished with quotation marks, common or emphasized observations were delineated with a star symbol, researcher concepts or early

analytic thoughts were identified through underlining and areas requiring follow-up were circled or boxed. Observation notes were then reviewed at the end of the day to fill in gaps and enhance fieldnotes. Researchers then reflected on fieldnotes upon completion of observational trips.

The first author, having completed the majority of the observations, analyzed all field notes using an inductive and iterative process. Given the research goal of operationalizing health consumer experience design, the data was coded with two lenses: 1) patient or guest experience dimensions and 2) operations components that actualize those experiences. These two categories were labeled “experience competencies” and “operations capabilities.” Operations capabilities were then categorized using a mind mapping exercise (Figure 1 and Figure 2) to establish an actionable framework oriented around organizational responsibility and authority over decision-making.

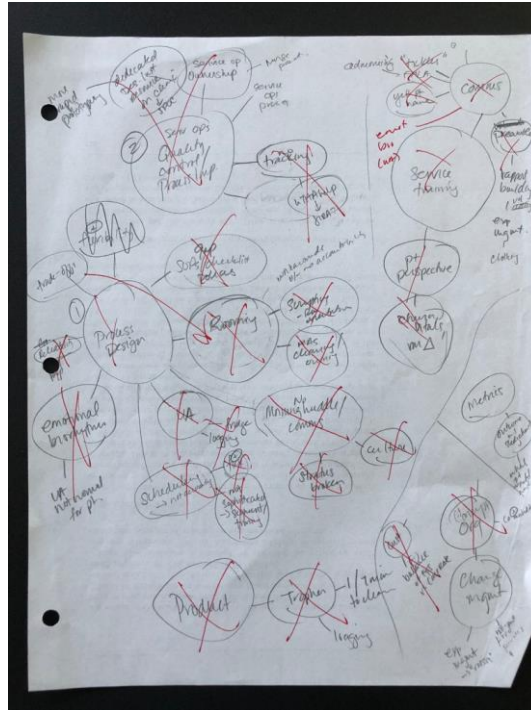


Figure 1. Mind mapping exercise.

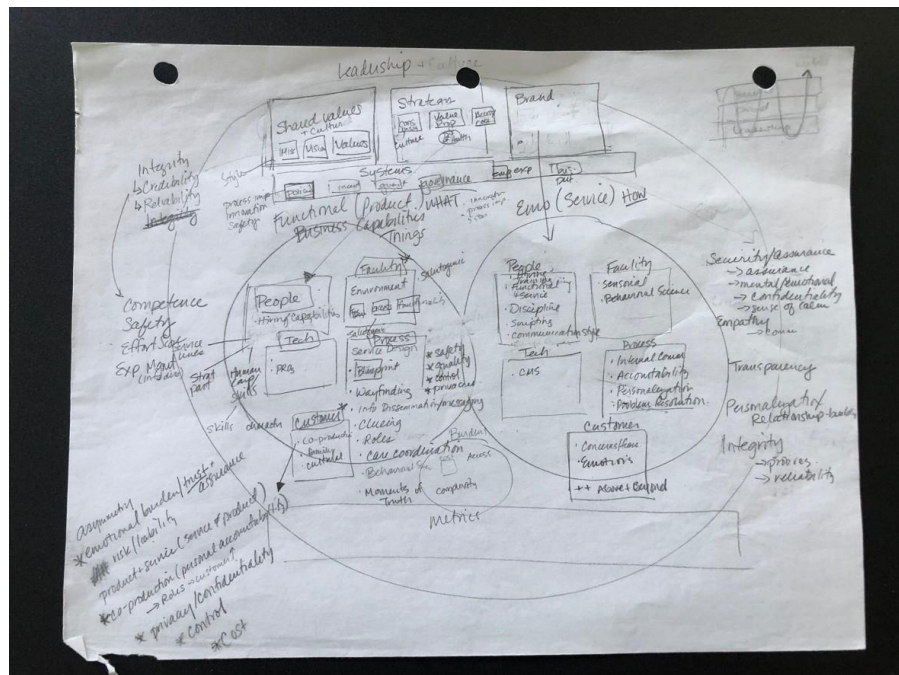


Figure 2. Draft operations framework.

The final step was to integrate the survey and observational results to bridge the gap between consumer expectations and operational delivery of service experiences. This process is outlined in the previous section and led to the final experience framework that was applied to both 2018 and 2019 survey data.

Quantitative Research | Generalized Estimating Equations

Content analysis of the ESP data resulted in binary variables in which “1” indicated that the survey respondent had mentioned the experience dimension and “0” indicated that she had not. This binary coding approach lent itself to quantitative analysis of the data, including frequency analysis. To further explore the relationship of the experience dimensions and operational capabilities in the context within which they were expressed, however, Generalized Estimating Equations (GEE) (Liang and Zeger, 1986) were also used. GEE is an extension of Generalized Linear Models (GLM) in which the data is clustered and, therefore, not independent. In these instances in which the assumptions for maximum likelihood do not apply, GEE offers a multivariate generalization of quasi-likelihood (Agresti, 2007).

In our data, respondents are representative of New York State, but they are nested within counties whose socio-economic conditions are likely to affect their perceptions of healthcare experiences. Therefore, when ESP 2018 and ESP 2019 data were combined, county served as the repeated, cluster measure across all data. Supplementary county data was also added to account for the relevant socio-economic and healthcare elements of each county that were likely to affect perception of care in those areas. Three measures were collected for each county based on the County Health Rankings framework: health outcomes, health factors, and policies. County Health Rankings is a joint partnership between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Health outcomes and health factors are

composite metrics based on data from government organizations such as the U.S. Census Bureau, the Centers for Medicare and Medicaid Services, and the National Center for Health Statistics. The policy metric is represented by premium costs by county and was collected from the NY State of Health, New York's health plan marketplace. A table outlining the supplementary data is included in Table 2.

Composite Metric	Description	Sub-Metrics	Source
Length of Life	Measures how long people live as an indicator of whether people are dying too early and why.	-Premature death (YPLL) -Life expectancy -Premature age-adjusted mortality -Child mortality -Infant mortality	http://www.countyhealthrankings.org
Quality of Life	Measures how healthy people feel while alive and general well-being.	-Poor or fair health -Poor or physical health days -Poor or mental health days -Low birthweight -Frequent physical distress -Frequent mental distress -Diabetes -HIV prevalence	http://www.countyhealthrankings.org
Health Behaviors	Measures actions individuals take that affect their health.	-Tobacco use -Diet & exercise -Alcohol and drug use -Sexual activity -Insufficient sleep	http://www.countyhealthrankings.org
Clinical Care	Measures access to affordable, quality, and timely health care.	-Access to care -Quality of care	http://www.countyhealthrankings.org
Social and Economic Factors	Measures the social and economic influences that affect how well and how long we live.	-Education -Employment -Income -Family & social support -Community safety	http://www.countyhealthrankings.org
Physical Environment	Measures the physical environment in which individuals live, learn, work, and play and therefore enhances or detracts from overall health.	-Air & water quality -Housing & transit	http://www.countyhealthrankings.org
Policies and Programs	Policies and programs that are enacted at a local, state, or federal level that can impact the health of a community. Given the nature of policies and programs as customized solutions at the local level, cost was used as a baseline policy influence for NY State counties.	-Annual monthly premiums for second lowest cost silver plans (SLCSPs) by coverage family type	http://www.nystateofhealth.ny.gov

Table 2. Supplementary county level data

Based on the frequency data discussed in the results section, we ran six, separate GEE regressions to explore the most cited experience dimensions as they rolled up into the three operational capabilities categories: product (model code: Prod), process (model code: Proc), and people (model code: Ppl). Six regressions were necessary in order to explore those three capabilities within both the positive (model code: Pos) and the negative (model code: Neg) context and each regression was run first with individual demographic factors alone (Model

Code: I) and then with both individual factors as well as county sociodemographic factors (Model Code: C). Estimated marginal means were used to analyze the variations among categorical predictor variables. SPSS was used to complete all statistical analyses. The GEE function in SPSS was used to run the six regression equations and calculate marginal means.

Results

As discussed, the research methods for this study included content analysis, observation, and generalized estimating equations (GEE). However, the research design evolved in four phases, each producing results that engendered unique insights. The phases were 1) preliminary content analysis of CIT experience questions, 2) observational analysis of three health organizations, 3) integration of content analysis and observational analysis, and 4) statistical analysis of the predictors of the final framework components.

Preliminary Content Analysis

The first, preliminary round of content analysis resulted in 12 general patient experience dimensions: access, quality, security, physical environment, efficiency, convenience, responsiveness, personalization, communication, courtesy, social connection, and outcome. These 12 dimensions were the first attempt by the research team to scope the breadth and depth of an experience framework as perceived by patients alone.

Preliminary Experience Dimensions	Definition
1. Access	<i>Cost of care, billing, insurance network, patient choice</i>
2. Quality (SQ)	<i>Competence, knowledge, ability to fix the problem</i>
3. Security	<i>Feeling safe in the provider's care</i>
4. Physical Environment (H, SQ)	<i>Feeling comfortable in the setting, cleanliness, quietness, parking</i>
5. Efficiency	<i>Wait time, care coordination</i>
6. Convenience	<i>Ease of use, effort</i>
7. Responsiveness (H, SQ)	<i>Attentiveness, acknowledgement in a timely manner</i>
8. Personalization (SQ)	<i>Relationship-building, knowing the patient by name, customizing the experience</i>
9. Communication (H, SQ)	<i>Language choices, body language, listening</i>
10. Courtesy (SQ)	<i>Respect, showing they care, compassion, empathy</i>
11. Social Connection	<i>Impact of the social environment, non-provider interactions</i>
12. Outcome	<i>Patient health status in general, result of care</i>

(H) = Dimensions similar to HCAHPS

(SQ) = Dimensions similar to SERVQUAL

Table 3. Phase 1 experience dimensions

These Phase 1 experience dimensions were critical in revealing a broader and more nuanced definition of consumer perceptions of experiences than had been conceptualized in previous service, experience, and healthcare literature. Only 50% of the dimensions aligned to the HCAHPS survey and SERVQUAL. The SEM model of experiences was too broad to be applicable at our desired level of understanding and operationalization.

An example of these shortcomings is demonstrated in the “access” category. Access in the form of cost of care, insurance networks, and billing was frequently mentioned in the data, but not well acknowledged in other frameworks. In particular, the unique nature of health insurance companies as a third-party payor impeding price transparency requires that access to care in the form of affordability and informed choice be emphasized as an experience dimension.

Another example of the nuances of healthcare experiences and the gaps in current experience frameworks is that of social connection. Several respondents mentioned the impact of other patients in the waiting room or support staff with whom they interacted elsewhere in the

hospital. Social support from other patients or families in addition to other hospital staff seemed to enhance or detract from a patient’s overall experience, but was not well acknowledged in previous frameworks.

Observational Analysis

Observational research at the three partner sites revealed nine service operations capabilities that the organizations used to execute health consumer experiences: customer, concept, culture, product, process, people, technology, metrics, and measures (Figure 3).

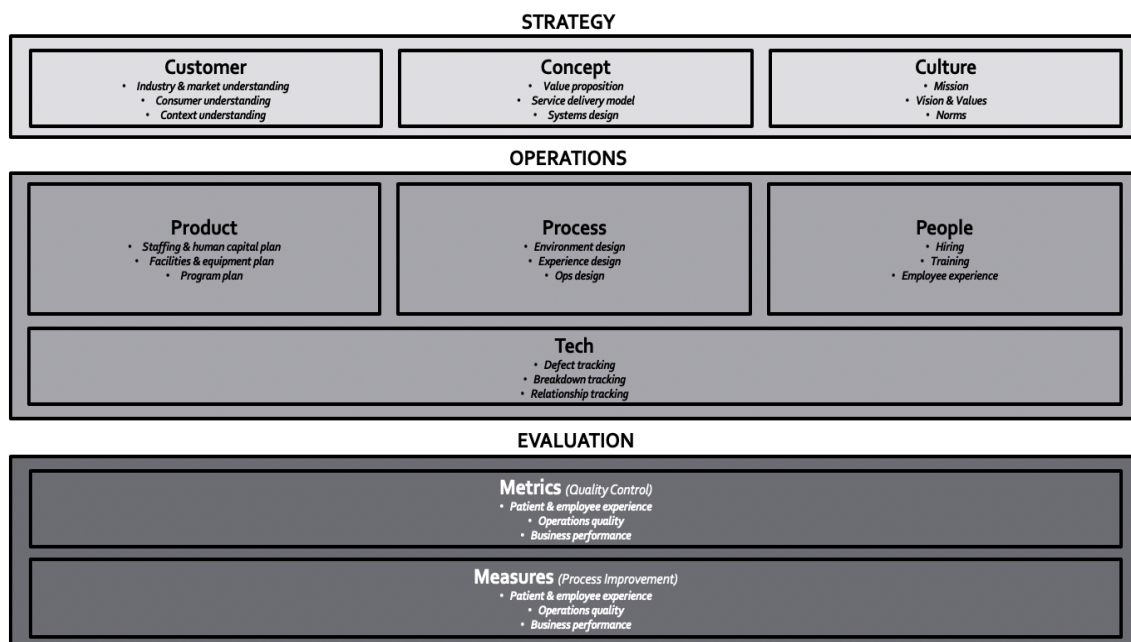


Figure 3. Operations framework.

These nine capabilities were then organized according to the general hierarchy of the perceived actor responsible for those components as well as the phase within the service delivery process of system design, execution, and improvement. In other words, these nine capabilities were grouped by level of authorized decision-maker and the point in the experience delivery at

which the capability is leveraged. Three main operating model categories resulted: strategy, operations, and evaluation.

Strategy, or the planning component of an operating model, consisted of the ways in which the organization understood its customer needs and its service area (customer), how it positioned itself to create value for that service area (concept), and the manner by which its employees and its organization delivered on that value (culture). These components represent decisions that are often made by leadership teams in a planning phase that precedes operations.

Operations, or the infrastructure by which inputs are translated into outputs and organizations deliver on the strategic vision, was comprised of those elements of the business that are intended to solve the consumer's functional need (product), the actions that move inputs through the system to help solve the consumer's functional and emotional needs (process), and the actors who interact with consumers to deliver the product and process to solve the consumer's emotional needs (people). Each of those elements was shown to be enhanced or diminished by the choice of delivery method (technology). These components are leveraged closer to the end-user, are executed in real-time during service encounters, and constitute decisions that are most often made by middle management and frontline operations employees themselves.

Evaluation, or the structure designed to assess and improve the operation, was comprised of the data collected to provide checks and balances to the quality of the system (metrics) and the policies and plan in place to ensure those insights are acted upon and improved (measures). These components are often tracked and managed by someone in a position of authority who may or may not be on the leadership team and they occur after, but as close to, the event or experience as is possible.

Integration of Content Analysis and Observational Analysis

Integration of initial survey coding with the observational data revealed that the 12 experience dimensions should, in fact, be represented as 21 experience competencies (Figure 4). Observational data had revealed that it is the combination of nine operational capabilities that delivers on experiences. This analysis revealed that consumers' perceptions of their experiences are a reflection of the success or failure to execute on those capabilities.

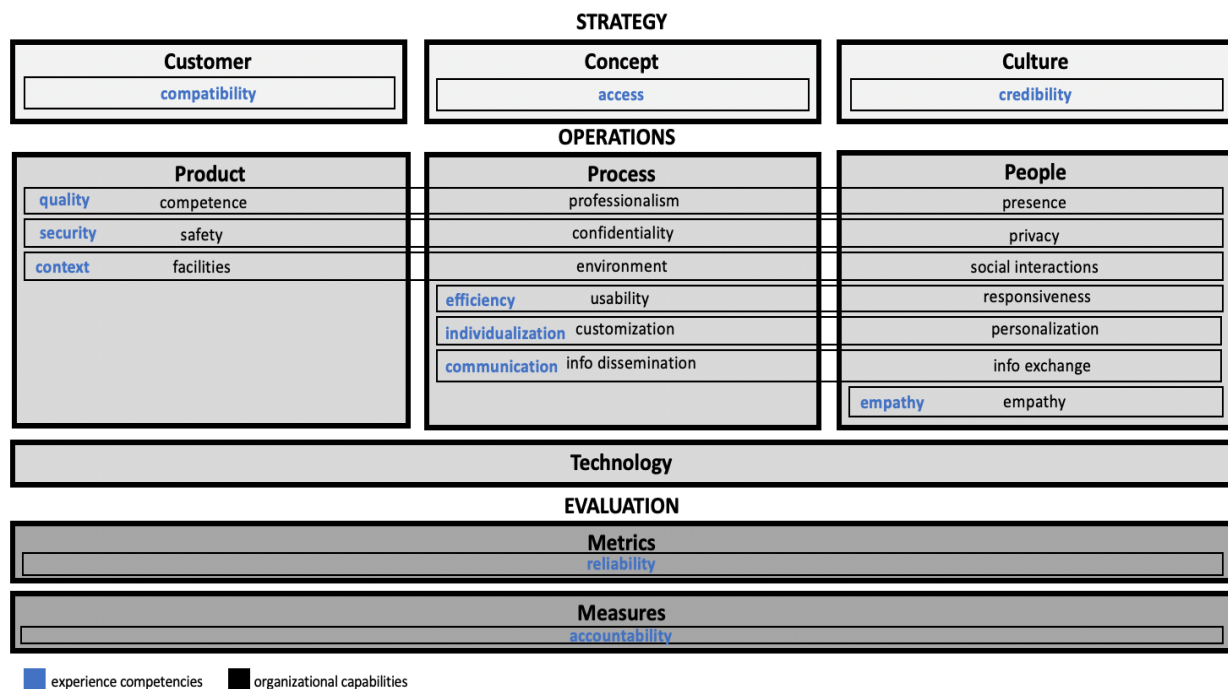


Figure 4. Integration framework.

Operating Model Component	Organizational Capabilities	Experience Competencies	Positive Experiences		Negative Experiences	
			Count of Mentions	Percentage	Count of Mentions	Percentage
Strategy	Customer	1. Compatibility	15	0.8%	5	0.6%
	Concept	2. Access	50	2.8%	161	17.8%
	Culture	3. Credibility	28	1.6%	22	2.4%
Operations	Product	4. Competence	281	15.9%	98	10.8%
		5. Safety	3	0.2%	8	0.9%
		6. Facilities	27	1.5%	12	1.3%
	Process	7. Professionalism	36	2.0%	5	0.6%
		8. Confidentiality	0	0.0%	1	0.1%
		9. Physical Environment	16	0.9%	13	1.4%
		10. Usability	290	16.4%	329	36.4%
		11. Customization	31	1.8%	2	0.2%
		12. Information Dissemination	28	1.6%	23	2.5%
	People	13. Presence	94	5.3%	49	5.4%
		14. Privacy	2	0.1%	4	0.4%
		15. Social Environment	3	0.2%	11	1.2%
		16. Responsiveness	33	1.9%	22	2.4%
		17. Personalization	108	6.1%	11	1.2%
		18. Information Exchange	182	10.3%	53	5.9%
		19. Service Orientation	515	29.1%	64	7.1%
Evaluation	Metrics	20. Reliability	22	1.2%	6	0.7%
	Measures	21. Accountability	4	0.2%	6	0.7%
	TOTAL RESPONSES		1768	100.0%	905	100.0%

Table 4. Empire State Poll 2018 and 2019 patient experience dimension results

NOTE: Respondent answers may have fallen into more than one category. Count of mentions is greater than total respondents.

When asked about their positive experiences, patients most noted competence (15.9%), usability (16.4%), information exchange (10.3%), and service orientation (29.1%). In other words, successful experiences are determined by operational execution on product and process, but especially people and service components. When asked about their negative experiences, patients most noted access (17.8%), competence (10.8%), and usability (36.4%). Therefore, negative experiences are also determined by operational execution on product and process, but they are unique in their dependence on strategic dimensions. In other words, patients consider access (especially cost), competence, and usability as foundational expectations. Failure on those components results in negative experiences. In order to move the needle to a positive experience, however, providers then need to execute on information exchange and service orientation.

It is important to note that generally, consumer perceptions of the strategy and evaluation components was weak in the data. In our Phase 1 analysis in which we considered consumers'

perceptions of their experiences alone, acknowledgement of cost and insurance pain points revealed that there as a strategic layer of experience, which we labeled as “access.”

Compatibility and credibility, however, had been too subtle in the Phase 1 consumer-only data to be labeled as a key dimension. It was not until the operations data was integrated that we recognized the subtle distinction between strategic experience effects and operational effects.

Additionally, reliability and accountability were not labeled in our initial Phase 1 analysis because they can be falsely ascribed to operations experience competencies. However, given the unique circumstances that engender reliability and accountability, namely repeated interactions and service breakdowns, they need to be recognized as distinct experience competencies. Therefore, their operational counterparts, metrics and measures, must also be distinctly recognized in order for the operation to properly root cause an experience issue and improve it. It is important to note, however, that with the exception of cost, consumers did not widely acknowledge strategy and evaluation dimensions, but organizations site them frequently in their explanation of experience design. This indicates the critical finding that the perspective of the consumer is limited. They can comment on the “front-of-house” experience of a product or service, but they cannot provide critical feedback on the “back-of-house” operations that create that experience.

In line with that finding, consumer perceptions of their experience were much stronger in the operations component of the framework. However, there was significant misalignment between the levels of generality. Quality, for instance, was revealed as a composite of competence, professionalism, and presence. The misalignment is important in that the operation must execute well on product capabilities, process capabilities, and people capabilities in order to achieve a quality experience. If, however, they do not know which capability is breaking down,

it makes improvement much more challenging. This disconnect indicated a key challenge in closing the knowing-doing gap in patient experience - lack of a common language across consumer and operations research and a misalignment of levels of generality. Table 5 presents the resulting definitions of the framework dimensions and aligns operational capabilities with experience competencies as they were observed.

Operating Model Component	Organizational Capabilities	Experience Competencies	Definition
Strategy	Customer	1. Compatibility	Customer understanding, offering services that the patient population needs, interest in whole human health and social support services
	Concept	2. Access	Service concept design, cost and payment models, insurance networks, appointment availability, hours of operation
	Culture	3. Credibility	Brand promise, organization culture, value-orientation, trust, reputation
Operations	Product	4. Competence	Clinical and administrative competence, skill, knowledge, root cause analysis and clear diagnosis, pain management, teamwork, innovation, seeing the desired level of provider, preparation for the visit, outcome
		5. Safety	Physical security, freedom from harm
		6. Facilities	Rooms, equipment, operating supplies and equipment (OS&E), cleanliness, parking
	Process	7. Professionalism	Quality of care clues (e.g. language and presentation), "service as theater", quietness
		8. Confidentiality	Anonymity of private information, protecting patient data and information
		9. Physical Environment	Sensorial experience (sight, sound, taste, smell, touch), furniture, fixtures & equipment (FF&E), soft goods, crowding
		10. Usability	Convenience, efficiency, speed, ease of use, effort, care coordination, navigation and wayfinding
		11. Customization	Flexibility, ability to adjust the service and/or process to meet the needs of the
		12. Information Dissemination	Proactive, planned and designed communication, often one-way communication (e.g. email templates, call scripts), expectation management
	People	13. Presence	Quality time with physician or care providers and staff, not feeling rushed, one-on-one time, making the consumer feel important through attention, patience
		14. Privacy	Level of respect for personal and vulnerable nature of healthcare, treatment of patients' privacy and sensitive interactions interpersonally
		15. Social Environment	Social context of care, non-provider interactions, service given by support staff (e.g. environmental services, food services), patient-patient or family-family engagement
		16. Responsiveness	Understanding value of time and respect for time, showing importance through attentiveness, response time
		17. Personalization	Feeling "known" and "seen" as an individual, understanding personal context, family and caregiver interactions and involvement, personalized attention, relationship
		18. Information Exchange	Verbal and non-verbal communication, shared decision-making, patient-provider interaction, listening, education, transparency
		19. Service Orientation	Compassion, courtesy, caring, approachability, non-judgment, respect, equality, partnership, problem-solving
Evaluation	Reliability	20. Reliability	Consistency, dependability, follow-through, keeping commitments, making good on brand promises, repeated encounters
	Accountability	21. Accountability	Problem resolution, service recovery, owning mistakes, apologizing, making amends, apologizing

Table 5. Definitions of organizational capabilities as aligned to experience competencies.

Statistical Analysis

Statistical analysis was then used to further explore the relationship among the experience dimensions as well as demographic and socioeconomic factors that influence the experience dimensions on which health consumers focus.

Bivariate tables were used to explore the relationship among the experience dimensions themselves. The researchers were interested to know if certain experience dimensions were frequently mentioned together and if so, which dimensions. In keeping with the above results regarding strategy and evaluation, there were no frequent combinations of operational experience dimensions with strategy or evaluation dimensions. Within the operations dimensions, however, small coupling patterns revealed interesting results worth exploring further. In both the positive and the negative data, usability was often coupled with another dimension to enhance or detract from the experience evaluation. In the positive data, usability was observed with service orientation by 40 of the 1,415 positive respondents (2.8%) and with competence by 23 of the 1,415 respondents (1.6%). In the negative data, usability was observed with competence by 14 of the 738 negative respondents (1.9%). While the results require larger datasets and more sophisticated methods to properly investigate and draw conclusions on clustering it is interesting to ponder usability as both a leading characteristic in healthcare experience evaluations as well as a coupling characteristic.

Generalized estimating equations (GEE) were used to analyze the relationship between product, process and people as the response variables with individual-level demographics and county-level socioeconomic factors as the predictor variables that affect respondents' orientations to various experience dimensions. First, the six regressions were run with individual variables only. Then, they were run with both individual and county variables to explore the relationship shifts when accounting for contextual influences on the healthcare environment. The first three regression models reflect answers to the positive survey question. The second three regression models reflect answers to the negative survey question. Each model was run with individual and county level variables, resulting in six regression models, but 12 sets of results.

The results of the first three (positive) regression models are shown in Table 6a and Table

7a.

Predictor (degree of freedom)	Positive Aspects of Experience					
	1a. Model PosProd_I	1b. Model PosProd_C	2a. Model PosProc_I	2b. Model PosProc_C	3a. Model Pos Ppl_I	3b. Model PosPpl_C
Year (2)	1.943	7.389**	0.042	0.079	0.212	0.585
Age	3.039	2.557	2.457	2.238	10.801**	10.313**
Gender (2)	6.499*	6.611*	9.139**	8.614**	15.192***	15.294***
Race - Majority/Minority (2)	0.005	0.358	1.464	1.613	1.040	0.425
Ethnicity (2)	1.301	1.227	2.160	2.159	0.130	0.176
Employment Status (2)	1.321	1.280	1.197	1.629	0.066	0.094
Annual Household Income (6)	1.977	2.204	17.005**	16.110**	12.495*	11.408*
Education (5)	2.686	3.168	24.028***	24.340***	4.872	4.364
Marital Status (2)	0.256	0.277	0.878	0.724	0.003	0.001
Children in Household (2)	0.183	0.078	2.237	1.361	0.011	0.010
Healthcare Visit Frequency (4)	4.444	2.646	1.659	1.591	5.515	5.418
Length of Life		2.541		1.374		0.789
Quality of Life		26.764***		0.002		0.016
Health Behaviors		2.467		1.592		0.152
Clinical Care		33.970***		1.596		0.001
Social & Economic Factors		21.054***		2.053		0.286
Physical Environment		7.429**		5.403*		0.779
Policies - Cost		14.129***		1.648		2.098

Table 6a. Results of Generalized Estimating Equations (GEE) on positive aspects of experience.

Predictor (degree of freedom)	Positive Aspect of Experience					
	1a. Model PosProd_I	1b. Model PosProd_C	2a. Model PosProc_I	2b. Model PosProc_C	3a. Model Pos Ppl_I	3b. Model PosPpl_C
Year						
2018	0.76	0.74	0.74	0.75	0.40	0.40
2019	0.80	0.82	0.75	0.74	0.42	0.43
Gender						
Male	0.76	0.03	0.71	0.72	0.47	0.47
Female	0.81	0.02	0.77	0.77	0.35	0.36
Race - Majority/Minority						
Majority (White)	0.78	0.77	0.76	0.77	0.39	0.40
Minority (Non-White)	0.78	0.79	0.73	0.73	0.43	0.43
Ethnicity						
Hispanic/Latino	0.80	0.80	0.77	0.78	0.40	0.40
Non-Hispanic/Latino	0.77	0.76	0.71	0.72	0.42	0.43
Employment Status						
Not employed	0.80	0.02	0.76	0.76	0.41	0.41
Employed	0.77	0.02	0.73	0.73	0.41	0.42
Annual Household Income						
Less than \$30k	0.79	0.79	0.74	0.74	0.37	0.38
\$30k-\$50k	0.76	0.75	0.78	0.79	0.40	0.41
\$50k-\$75k	0.79	0.79	0.79	0.79	0.36	0.36
\$75k-\$100k	0.78	0.78	0.75	0.76	0.42	0.42
\$100k-less than \$150k	0.80	0.80	0.68	0.69	0.45	0.45
>\$150k	0.78	0.77	0.71	0.71	0.46	0.46
Education						
Less than high school	0.78	0.78	0.82	0.83	0.37	0.37
High school	0.80	0.80	0.74	0.74	0.39	0.39
High school and some college	0.79	0.80	0.67	0.67	0.46	0.46
College or other 4-year degree	0.76	0.75	0.76	0.76	0.41	0.42
Post-graduate	0.78	0.78	0.73	0.72	0.42	0.43
Marital Status						
Single	0.79	0.79	0.73	0.73	0.41	0.41
Married	0.78	0.78	0.76	0.76	0.41	0.41
Children in Household						
No children	0.78	0.78	0.76	0.76	0.41	0.41
Children	0.79	0.79	0.73	0.73	0.41	0.42
Healthcare Visit Frequency (# visits within last year)						
None	0.74	0.75	0.76	0.77	0.42	0.42
1-4 visits/year	0.77	0.77	0.73	0.73	0.44	0.44
1 visit/month	0.82	0.82	0.70	0.71	0.38	0.38
>1 visit/month	0.79	0.79	0.78	0.78	0.40	0.41

Table 7a. Results of Generalized Estimating Equations (GEE) marginal means for categorical variables

Model 1a reflects influences on respondents' focus on product components of the operation as a contributor to their positive experiences. As indicated, gender is statistically significant at the individual level. Females are 6.2% more likely to comment on product than are males. After layering in county variables, Model 1b indicates that survey year, gender, quality of life, clinical care, social & economic factors, physical environment, and policies (cost) are all statistically significant in explaining the respondents' choice to focus on product components of the operation. In 2019, respondents were 9.76% more likely to comment on product components than in 2018. After accounting for context, however, gender likelihood switched such that males are 32.0% more likely to comment on product components than females.

Model 2a reflects influences on respondents' focus on process components of the operation as a contributor to their positive experiences. As indicated, gender, annual household income, and education are statistically significant at the individual level. Females are 7.8% more likely to comment on process than are males. Those in the \$50,000 to \$75,000 annual household income range are 13.92% more likely to comment on process than those earning \$100,000 to \$150,000 annually and those with less than a high school education are 18.29% more likely to comment on process than those with a high school education and some college. After layering in county variables, Model 2b indicates that gender, annual household income, education, and physical environment are statistically significant. Marginal means for gender, annual household income, and education maintained similar differences as expressed at the individual level.

Model 3a reflects influences on respondents' focus on people components of the operation as a contributor to their positive experiences. In Model 3a, age, gender, and annual household income are statistically significant. Males are 25.5% more likely to comment on people components of the operation than are females and those with an annual household income

greater than \$150,000 are 21.74% more likely to comment on people components. Model 3b includes county level variables and indicates that age, gender, and household income are statistically significant. Marginal means revealed that likelihood patterns maintained a similar pattern.

The results of the second three (negative) regression models are reflected in Table 6b and Table 7b.

Predictor (degree of freedom)	Negative Aspects of Experience					
	4a. Model NegProd_I	4b. Model NegProd_C	5a. Model Neg Proc_I	5b. Model Neg Proc_C	6a. Model NegPpl_I	6b. Model NegPpl_C
Year (2)	7.678**	1.981	0.189	1.965	12.587***	5.799*
Age	3.895*	4.911*	1.190	1.341	1.051	1.177
Gender (2)	0.662	0.486	0.155	0.100	8.456**	7.492**
Race - Majority/Minority (2)	0.032	0.150	2.004	0.406	0.709	1.038
Ethnicity (2)	0.117	0.014	0.017	0.061	13.442***	10.409***
Employment Status (2)	0.011	0.001	0.126	0.286	1.188	1.142
Annual Household Income (6)	1.565	1.284	2.378	2.686	6.953	6.334
Education (5)	4.599	4.197	6.184	5.039	5.324	6.725
Marital Status (2)	2.653	2.818	1.260	2.277	0.268	0.116
Children in Household (2)	0.002	0.005	0.388	0.499	1.756	1.405
Healthcare Visit Frequency (4)	9.808*	11.497**	0.156	0.132	2.904	2.802
Length of Life		0.000		0.143		0.341
Quality of Life		2.127		0.450		0.441
Health Behaviors		3.872*		0.745		0.123
Clinical Care		0.221		0.011		0.023
Social & Economic Factors		0.564		0.252		0.025
Physical Environment		4.917*		0.664		0.100
Policies - Cost		5.407*		8.021**		0.113

Table 6b. Results of Generalized Estimating Equations (GEE)

Predictor (degree of freedom)	Negative Aspect of Experience					
	4a. Model NegProd_I	4b. Model NegProd_C	5a. Model Neg Proc_I	5b. Model Neg Proc_C	6a. Model NegPpl_I	6b. Model NegPpl_C
Year						
2018	0.79	0.80	0.48	0.47	0.65	0.65
2019	0.86	0.85	0.50	0.54	0.76	0.77
Gender						
Male	0.81	0.81	0.50	0.51	0.76	0.77
Female	0.84	0.84	0.48	0.50	0.66	0.67
Race - Majority/Minority						
Majority (White)	0.83	0.82	0.46	0.49	0.72	0.74
Minority (Non-White)	0.82	0.83	0.52	0.52	0.70	0.70
Ethnicity						
Hispanic/Latino	0.82	0.82	0.49	0.50	0.79	0.79
Non-Hispanic/Latino	0.83	0.83	0.49	0.51	0.62	0.63
Employment Status						
Not employed	0.83	0.83	0.50	0.52	0.74	0.75
Employed	0.82	0.82	0.48	0.49	0.68	0.69
Annual Household Income						
Less than \$30k	0.81	0.81	0.48	0.49	0.62	0.64
\$30k-\$50k	0.83	0.83	0.45	0.46	0.72	0.73
\$50k-\$75k	0.81	0.80	0.47	0.49	0.71	0.72
\$75k-\$100k	0.84	0.84	0.53	0.55	0.75	0.76
\$100k-less than \$150k	0.84	0.84	0.47	0.48	0.72	0.73
>\$150k	0.83	0.82	0.55	0.58	0.73	0.73
Education						
Less than high school	0.81	0.81	0.46	0.49	0.77	0.77
High school	0.79	0.79	0.43	0.45	0.75	0.75
High school and some college	0.86	0.86	0.53	0.54	0.63	0.64
College or other 4-year degree	0.88	0.88	0.47	0.49	0.70	0.71
Post-graduate	0.78	0.77	0.55	0.56	0.69	0.71
Marital Status						
Single	0.81	0.80	0.51	0.53	0.70	0.71
Married	0.84	0.84	0.47	0.48	0.72	0.72
Children in Household						
No children	0.83	0.83	0.47	0.49	0.73	0.74
Children	0.83	0.82	0.51	0.52	0.69	0.70
Healthcare Visit Frequency (# visits within last year)						
None	0.75	0.75	0.50	0.52	0.72	0.73
1-4 visits/year	0.87	0.87	0.49	0.50	0.75	0.76
1 visit/month	0.88	0.88	0.50	0.51	0.70	0.71
>1 visit/month	0.78	0.78	0.47	0.49	0.66	0.67

Table 7b. Results of Generalized Estimating Equations (GEE) marginal means for categorical variables

Model 4a reflects influences on respondents' focus on product components of the operation as a contributor to their negative experiences. Survey year, age, and healthcare visit frequency are expressed as statistically significant. In 2019, respondents were 8.1% more likely to comment on product components of the operation than they were in 2018. Respondents who visited a healthcare provider once per month were 14.8% more likely to comment on product components than those who had not visited a healthcare provider within the last year. In Model 4b in which county level variables are included, age, healthcare visit frequency, health behaviors, physical environment, and policies (cost) are all significant. Marginal means for healthcare visit frequency, the one categorical variable that is shown to be significant, are similar to that at the individual level.

Model 5a reflects influences on respondents' focus on process components of the operation as a contributor to their negative experiences. As indicated, no variables were statistically significant at the individual level. At the county level, as indicated in Model 5b, only cost was significant.

Model 6a reflects influences on respondents' focus on people components of the operation as a contributor to their negative experiences. Survey year, gender, and ethnicity are statistically significant at the individual level. In 2019, respondents were 14.5% more likely to comment on people components than in 2018. Males were 13.2% more likely to comment on people components of their experiences than females and Hispanics/Latinos were 21.5% more likely to comment on people components than non-Hispanics/Latinos. Model 6b layers in county variables and indicates that survey year, gender, and ethnicity remained statistically significant with similar patterns in marginal means.

Discussion

Findings and implications from this research fall into three main areas: experience implications, operations implications, and integration implications.

Experience Implications

First, this analysis solidified the need for a comprehensive experience framework such that positive and negative experiences are two sides to the same coin. In a 2002 MIT Sloan Management Review article, Berry, Carbone, and Haeckel discussed the need for organizations to manage the “total customer experience.” The total customer experience, as they defined it, orients around a customer value equation which is the product of functional needs (actual functioning of the good or service) plus emotional needs (smells, sounds, sights, tastes, textures, and environment of the good or service) minus the burdens (financial and non-financial negative experiences) (Berry, Carbone, and Haeckel, 2002). Their conceptualization of total experiences contributed a critical understanding of the consumer value equation as including both the functional need (often the product) and the emotional need (often the service); however, they did not conceptualize burdens as breakdowns in an organization’s execution of functional or emotional needs. For instance, Berry, Carbone, and Haeckel discuss financial burdens as independent of functional and emotional needs, but survey participants who cited cost as a negative experience discussed it as a breakdown in their functional need for affordability and access.

The second finding in this analysis was that it identified two key gaps in previous conceptualizations of patient experience dimensions: 1) a gap in our understanding of consumer

conceptualizations of time throughout their experience and 2) a gap in our acknowledgement of the influence of context on service experiences.

Operating Model Component	Organizational Capabilities	Experience Competencies	Examples of Positive Responses	Examples of Negative Responses
Strategy	Customer	1. Compatibility	"They specialize in working with people that are of the LGBTQ group and they're very sensitive to those things. They're very with it. I love about my doctor's office."	"It's not 24-hour service, especially in New York City. We have crazy schedules down here."
	Concept	2. Access	"I can go in, pay my \$20 copay, and I'm not usually asked for anything else. That helps me get helped along if I do have a problem."	"I had to travel to see my doctor, and my insurance would not have covered it if I did not see my doctor."
	Culture	3. Credibility	"I went to a chain eye care where you can get exams and glasses and staff was amazing. They were very engaged and interested. Somebody must have done a good job with staff alignment. A coworker went to a different branch and had same experience."	"The whole thing felt like a business, the people who set up the appointment were more worried about getting my insurance rather than worrying about my visit."
Operations	Product	4. Competence	"My provider was thinking outside the box and not doing traditional medicine. Did not just give me medication but tried to solve the problem in other ways."	"The E.R. they sent me home with an inhaler and then I got heart failure. I was coughing up blood. They let me sit there for 4 hours."
		5. Safety	"New sanitation precautions."	"Some of the doctors- some of them put gloves on and"
		6. Facilities	"The building was in good condition. The medical equipment was up to date, and they were well supplied."	"The office standards, quality of machinery is not good."
	Process	7. Professionalism	"The level of professionalism from the staff."	"The doctor was telling me about all the weed when he was my age. All of the bad things that he had done under the influence. It was a little unnerving."
		8. Confidentiality	"Doctor-patient confidentiality; they care about the patient."	In a small town like this one, major privacy breach problems. Confidentiality breach.
		9. Physical Environment	Calm atmosphere, not too crowded..	Noise on the surgery ward.
		10. Usability	"When you go into an office and they're expecting you, efficiency of time. I'm of a certain age. I don't want anyone to assume my time isn't valuable just because I'm retired. I went into a recent test, and the office ran like a charm. It was a pleasure. I have had a health receptionist tell me that she had never realized I was in the office and she had called me at home instead! They just aren't being thorough. It makes you feel like more time is valuable."	"The wait...[and]...they ask you for information overload. They ask you every question five times."
		11. Customization	"The staff at my dentist help with working around my schedule."	"During the physical exam, I wanted to get a mammography and the doctor wouldn't do it because I am not 50. Nor could I get a pap smear because they only do it"
		12. Information Dissemination	"Nurse was very attentive. They call me before the service and follow up with my results, so it was good."	"The direction for the pre--what the heck do you call it--the directions for the preparation could have been better."
		13. Presence	"My doctor spends a lot of time with me."	"The doctors over worked not enough time with patient."
	People	14. Privacy	"The nurses are nice and confidential (respect privacy)."	"Sometimes I don't get the privacy that I think I need. It doesn't happen all the time, but sometimes it does."
		15. Social Environment	"Group environment. It's helpful."	"I wasn't too pleased with the dirty, nasty people who were in the waiting room with me. People should take care of their hygiene. That is a reflection on the establishment because they're going to be touching these people and then touching me."
		16. Responsiveness	"Attention to the patient right away. Timing is everything."	"Being left there for a very long time without regard to my need to drink or eat."
		17. Personalization	"The receptionist was nice and showed interest in my endeavors by asking questions about"	"The doctor never told me his name and he never acknowledged me by my first name."
		18. Information Exchange	"I appreciated the straightforward answers to my questions. I like to understand what's going on."	"There was someone that was hearing what I was saying, but wasn't listening. I had to talk to another doctor to have them listen to what was wrong, and I was right."
		19. Service Orientation	"Attitude is a major thing. It's all about your body language and your attitude. I didn't feel like another patient or just a number. They were very patient with me and very nice."	"They acted very cold at the facility."
	Reliability	20. Reliability	"It's a dentist I have been going to for years, regardless of what health issues I have they maintain the customer service with integrity."	"Having blood drawn, the phlebotomist was not very good. This particular phlebotomist always manages to miss or completely shoot past the vein. I always get a bruise when she does it. I'm not using her again. I let her do it three times and that's it."
Evaluation	Accountability	21. Accountability	"They took complaints seriously. They went above and beyond. They really cared."	"Lack of friendliness- the staff did not want to help. There was also a problem with billing. I made several calls but could not get it fixed until collector called me."

Table 8. Definitions of organizational capabilities as aligned to experience competencies.

The gap in temporal dimensions was revealed through distinct language and conceptual differences between dimensions such as usability, presence, and responsiveness. Patients spoke of usability in terms of the provider's respect for their time, presence as the provider showing respect with time, and responsiveness as demonstrating respect through timeliness. The difference in these definitions is subtle, but each one carried unique meaning for patients and was an expression of respect by means of time. Furthermore, these dimensions frequently exhibited themselves in specific phases or moments of time in the patient journey. Usability, for instance, was often discussed as it relates to the inconvenience of wait times and paperwork during a patient's intake process whereas presence was often discussed as it relates to provider interaction and duration of the patient's appointment. This notion of time as a form of relationship currency and its expression at specific points across the patient journey depending on perceived authority, responsibility, and goal in the moment deserves further research.

The gap in context understanding was demonstrated in the nuances with which patients discussed their environments. Traditionally, context has been discussed in terms of physical environment such as the HCAHPS cleanliness and quietness questions, service-as-theater concepts such as dress and grooming (Grove & Fisk, 1992), and sensory clue management such as environmental design (Berry & Bendapudi, 2003) but patients appeared to discuss context as a more sophisticated concept. In their feedback, context included facilities and physical environment as well as the social environment that included their interactions with other patients, families or carers, and non-clinical staff. Previous conceptualizations of experience in healthcare have acknowledged the consumer's drive for connection in experiences, but little attention has been paid to surrounding social interactions as a form of environment or the influence of that indirect information processing on experience consumption and evaluation. In this vein, the

fields of neuroscience and design may impart wisdom on the traditionally accepted definition of context in patient experience. If we understand context's influence as it relates to the brain's "environment system," or the "associated brain and mind functions that enable the external environment to play a role in other brain activities and systems such as memory, orientation, and learning," (Zeisel, 2006) it broadens the definition of context to one that includes any extrinsic cues that trigger intrinsic human needs and responses.

The third key experiential finding in this research relates to the high negative emotional load of healthcare experiences and the orientation of patients as "reluctant consumers" (Schwartz, 2015). In healthcare, the consumer is sick, in pain, or generally resistant to engage in the utilitarian experience of health management while also being at a considerable knowledge disadvantage (Berry & Bendapudi, 2007). This consumer orientation impacts the experience by altering the "*gestalt* characteristics" (Ariely and Carmon, 2000) that drive the patient's experience evaluation. In our research, the two "anchor" characteristics, or those characteristics with a high frequency of mentions in both positive and negative experiences, were competence and usability (See Table 4). Whereas many other industries focus on service levels that "surprise and delight" customers or go "above and beyond," health consumers value experience elements that solve their functional problem and get them through the experience as easily and painlessly as possible. The dichotomy of hedonistic versus utilitarian experiences driven by appetitive versus aversive goal values has been written about extensively in the consumer behavior and neurology literature (Holbrook & Hirschman, 1982; Hirschman & Holbrook, 1986; Bagozzi, Gopinath, & Nyer, 1999; Plassman, O'Doherty, & Rangel, 2010). More recently, it has been explored in the marketing literature as it relates to healthcare and the patient experience through the work of Laurette Dubé and colleagues (Dubé, Belanger, & Trudeau, 1996; Dubé & Menon,

1998). What has not yet been established, however, is what that means operationally. In order to translate that consumer orientation to an operationalized experience, it needs to be understood that care quality and perceived competence of the provider as well as usability in terms of ease of use should be addressed before all else. In other words, operations should consider prioritizing metrics that capture patient perceived competence as well as usability metrics such as Customer Effort Score (Dixon, Freeman & Toman, 2010) before addressing more hedonistic aspects of experience.

Operations Implications

The development of an organizational operating model in parallel with health consumer experience dimensions revealed additional insights about how to operationally execute more effective patient experiences. First, as seen in Figure 4, levels of generality between operational capabilities and experience competencies in the macro categories of strategy and evaluation are more consistent than in the operations category. This observation was further developed by survey results in which respondents only mentioned strategic aspects of their positive experiences 5.6% of the time and evaluative aspects 1.6% of the time. In negative experiences, survey respondents mentioned strategic aspects 20.9% of the time and evaluation aspects only 1.0% of the time, with 17.8% of the negative strategic mentions resulting from access issues which were most often cost. Yet, in our observational data from operations site visits, leadership consistently discussed pain points relating to lack of clarity around customer compatibility (Buell, Campbell, & Frei, 2018), service concept (Goldstein, Johnston, Duffy & Rao, 2002), and cultures as identity structures (Sackmann, 1992; O'Reilly & Chatman, 1996; Capra & Luisi, 2014) as well as quality control metrics and process improvement measures. These results demonstrate an important understanding of operational excellence in that strategy and evaluation

are paramount to operational success, but the consumer perspective is limited such that they cannot see them. In other words, consumer surveys alone will not reveal the operational breakdowns that are hindering performance excellence. They may hint at the symptoms of root cause operational maladies, but unless the organization measures and manages itself as a complex system comprised of internal and external stakeholders and processes, comprehensive service and experience excellence may not be achieved.

Second, the misalignment of levels of generality within the operations layer of the operating model provides insight into the current operational challenge of executing on patient experience dimensions as they are currently categorized. Since quality is a dimension that is commonly used in the patient experience vernacular, we will use it to illustrate this finding. Traditionally, quality has been conceptualized as a standalone dimension. In our model, quality exhibits itself in three sub-components: competence, professionalism, and presence. These sub-components result from the different elements within the operating model that drive their delivery to the consumer. Competence in healthcare is a result of hiring and staffing for quality care or the functional needs of the consumer. Professionalism is a result of processes put in place to clue patients to the quality of care that they are receiving when asymmetry of information requires patients to use heuristics. Presence results from care providers spending quality time with patients so the patient perceives that the provider was thorough. These elements, in essence, create the composite experience competency of quality, but these distinctions are important because each component requires a different management strategy operationally. Service operators understand that product breakdowns often require more tangible solutions to what they are offering the consumer. Process breakdowns require more dynamic solutions in the sense of reworking the flow of delivery. People breakdowns require intangible retraining of

human behavior. The approach, resource needs, and timelines are inherently different and without that level of nuance, it is nearly impossible to choose the right tool to drive the right solution.

The third and final operational insight from this research is revealed through the paradox of several experience competencies and the resulting implications for service operations design and management. For example, within the elements of the experience that directly relate to functional needs or the clinical care process, patients emphasize quality, reliability, and standardization. Within the elements of the experience that relate to the emotional needs or non-clinical interpersonal interactions, patients emphasize caring, personalization, and customization. Thus, it is easy to see how organizations perceive patient preferences as fickle, however, when considered through a service operations and systems thinking lens, their preferences make more sense. Service operations research has studied this perceived paradox through its debate on characteristics and management styles of products versus services (Sasser, Olsen & Wyckoff, 1978). Systems thinking research has studied this paradox through the conversation about designed versus emergent elements of a system, or the idea that product and process components can be proactively designed, but people or service elements are a product of human beings and are therefore emergent (Capra & Luisi, 2014). The challenge of how to handle this dualism has resulted in an understanding that they should be treated less like competing qualities of an organization and more like complementary qualities. In healthcare, however, the contrast is more stark and therefore more challenging. The product (quality healthcare) is exponentially more complex and high risk than in other industries and thus requires extreme levels of standardization to execute safely. The service (how quality healthcare is delivered) is also more complex in that it has to be designed for a sick, stressed, reluctant consumer. Given that negative emotions are

both more salient and more specific than positive emotions and that their processing and expression is more heterogeneous, this requires extreme levels of service sophistication and customization (Dubé, Belanger, & Trudeau, 1996). That dramatic dualism in healthcare requires parallel management strategies and leadership skillsets. Thus far, we have not fully recognized that need.

Integration Implications

The process of integrating experience competencies with organizational capabilities revealed a more holistic perspective of the opportunity to solve the knowing-doing problem in patient experience. In addition to the findings about healthcare experiences and operations mentioned above, integration revealed findings relevant to the intersection of those two elements as well.

First, the development of a patient experience framework in conjunction with an operating model revealed misalignments and gaps within existing understandings of those concepts independently, but it also revealed gaps between conceptualizations of those concepts when operating in a system together. Whereas patients did not focus on strategy or evaluation components of the operation because they can't see or experience them, operations organizations frequently sited them as pain points in that they were lacking in the proper information inputs and outputs to manage and continuously improve the service experience in line with the vision of the organization. This insight revealed the need for organizational alignment across all operating model components in order to execute effectively across all experience dimensions. This finding was reflective of "the congruence model" of organizational behavior in which the hypothesis is that "Other things being equal, the greater the total degree of congruence, or fit, among the

various components, the more effective the organization will be” (Nadler & Tushman, 1997, p. 34).

The GEE results offer an insightful look at why organizational alignment and congruence are important. On an individual level, it is clear that there are gender differences in terms of experience competencies on which respondents focus. Within the positive experience frame, women were more likely to comment on product and process excellence, while men were more likely to comment on excellence in people and service in both the positive and negative frames. This pattern may simply reflect gender preference or it may represent a more deeply engrained social construct around gender and service roles. In another aspect of the individual models, those with lower education and lower annual household incomes were more likely to comment on process excellence and ease of use, which may be an indication that healthcare is particularly complex and daunting to those with less education and fewer means to access it, so they are particularly appreciative of any effort to make it easier to use. Within the negative frame, it is especially concerning that Hispanic and Latino respondents were more likely to comment on negative service or people experiences. Again, this pattern may simply reflect ethnicity preferences, but it may represent a more deeply engrained social issue that is worth reversing. These findings illuminate the fact that if an organization negates the strategy or evaluation layers of the operating model and fails to account for its unique customer base, it may inadvertently prioritize aspects of the operation that carry less weight to the consumer segments within its service area, or worse, it may continue to undermine already vulnerable populations.

On the county level, the most interesting GEE insight regarding organizational alignment is the influence of social determinants of health on consumers’ orientation to the product or quality of care they receive. Within the positive frame, five out of six social determinants of

health variables tested returned significant respondents who commented on product quality and within the negative frame, three out of six returned significant. Organizational behavior literature often talks about organizations as systems and, in particular as “open systems” (Nadler & Tushman, 1997). Nadler and Tushman describe an “open system” as “one that interacts with its environment; it draws input from external sources and transforms it into some form of output” (Nadler & Tushman, 1997, p. 26). In addition to health consumers themselves being an input into a health system and therefore a healthcare experience, the context in which they find themselves is also an input. If an organization does not consider social determinants of health as they relate to both their patients’ needs as well as how they conceptualize their service delivery, access, and culture, they are unlikely to be successful in delivering quality healthcare experiences.

The second integration insight was the inherent tensions in a healthcare system that must align the needs of the patient, the providers, and the organization simultaneously. In a service systems perspective of organizations, stakeholders must co-produce the experience to achieve the best outcome. However, no one stakeholder has complete line of sight nor should they have total authority and responsibility. While patients often commented on the poor attitude or performance of the provider and the hindrances caused by the health system (organization) and insurance companies, they also commented on their own attitude or behaviors that led to poor outcomes. Inherent tension in a system requires deliberate trade-offs in the design and management of that system. If those trade-offs are not made intentionally, an unintentional and often poor experience will fill that void as all stakeholders clamor to achieve their goals and act without boundaries or rules for co-production.

The third and final insight from integration was as it relates to metrics and measures. A comprehensive, holistic systems perspective was needed for patient experience. It still deserves

further research and validation. However, the development of a 21-dimension framework is not operationally feasible as a patient experience survey or regular data collection of any sort. In that way, this research revealed the need for new thinking in terms of how we collect and gather patient feedback. Thus far, we have allowed the limitations of survey channels and consumer attention spans to dictate the data we measure and thus what we manage. There is an opportunity in healthcare to think more creatively about the approach to feedback and data collection. There is an opportunity to move away from a solely quantitative data orientation to one that is mixed methods, quantitative and qualitative. We also have an opportunity to explore the idea of a “hot spotter” metric, in which we cater to consumer attention spans by leveraging one North Star metric to be the proverbial canary in the coal mine and leverage text analysis or patient advisory councils to supplement our understanding with qualitative research. Research methods and data collection in patient experience are antiquated, ineffective, and in need of a fresh approach.

Limitations

A primary limitation of this research is the collection of health consumer feedback from New York State alone. Despite rigorous sampling methods and a representative sample of New York State, it is likely that other regions of the U.S. may place different weight on various experience competencies and operational capabilities. However, it is anticipated that the comprehensiveness of the framework will hold. Future research in which we apply this work to general U.S. population is planned as a follow up study.

Another limitation of this study is the subjective nature of the variables in use. Respondents were asked about their perception of their most recent healthcare experience and, despite that being their only way to speak about such an experience, it does not account for the systemic nature of healthcare experiences. Providers and health systems (organizations) also

have an equally valid perspective and despite some of those perspectives being included through observational data, they were not formally collected through survey data. Future research by the first author is outlined to explore those perspectives further.

Conclusion

Currently, participants in patient experience forums debate the appropriateness of using the term “consumer” as it is applied to patients. The concern is warranted given the reluctance and vulnerability of the health consumer and the highly emotional nature of an experience that then gets associated with voluntary engagement, desired purchasing, and an association of pleasure. That said, this paper demonstrates that there is great value in leveraging the insights of consumer behavior, marketing, experience design and service research to better understand what does and does not apply to healthcare and how to leverage that information to operationalize the improvement of the care experience.

This research has highlighted a key differentiator of the healthcare experience that should drive our approach to research moving forward: emotions. Healthcare is a uniquely emotional and personal experience. It challenges one’s sense of personal identity as well as one’s identity within a social construct. Personal motivations, social norms, and group behaviors all play a role, which is why traditional constructs of experience are not sufficient in healthcare. Current patient experience frameworks such as HCAHPS were well-meaning and have inspired progress in the space, but they were anchored in quantitative methods before the construct was sophisticated enough to warrant that. The unique vulnerability of healthcare includes emotional, social, and behavioral nuances that are hard to capture with quantitative methods. As a next step, exploratory and generative qualitative research is needed to scope and define the experience

construct as it is unique to health consumers. From there, we will be able to build a more appropriate and scalable experience framework and corresponding quantitative metrics.

Future research in this space should focus on a better understanding of the emotional biorhythm of patients and families over time, how behavioral segmentation impacts health service consumption, and more comprehensive definitions of experience competencies and the operational capabilities required to support them. Furthermore, the adoption and engagement of design research will be critical in navigating the inherent tensions between patient needs and provider capabilities to ensure deliberate trade-offs and intentional experience architectures. Some tensions to be explored include: the appropriate application of technology vs. human touch, the right balance between standardization vs. customization of experience, and patient service recovery vs. organizational risk.

Finally, it cannot be understated that this work focused on the consumer side of a co-produced experience and equivalent research is necessary on the producer or provider side to fully understand the optimization of service experiences in healthcare. Good patient experiences cannot exist without good provider experiences fueling the execution of both functional and emotional needs. Exploration of that work considered in tandem with continued patient experience research will be a step in the right direction toward closing the knowing-doing gap in improving co-produced and highly engaging service experiences in healthcare.

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CHAPTER 3

PIVOTING TO A NEW NORMAL: DELIVERING HEALTH AND HUMAN SERVICES IN THE WAKE OF THE CORONAVIRUS CRISIS

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Introduction

In late December 2019, the city of Wuhan, China experienced an outbreak of a novel coronavirus that killed more than eighteen hundred and infected over seventy thousand individuals within the first fifty [days](#) (Shereen, Khan, Kazmi, Bashir, & Siddique, 2020). This novel coronavirus, which has since been titled SARS-CoV-2 (the virus) and COVID-19 (the disease) by The International Committee on Taxonomy of Viruses (ICTV) (Shereen et al., 2020), has been identified as a mutation of one of two, known severe acute respiratory coronaviruses (SARs). Initial studies of the virus revealed that its genetic recombination resulted in high transmission rates and unique mortality patterns, but there is still much that we don't know. As of the date of this writing, coronavirus (COVID-19) has infected 23,513,905 and killed 809,999 across 188 countries (John Hopkins University, [2020](#)). It is the worst global pandemic in recent history and often categorized as an unprecedented event for its compound effects on global health, economic markets, and sociopolitical environments (Karabag, 2020).

The first confirmed case of coronavirus in the U.S. was reported outside of Seattle, Washington on January 20, 2020 (Holshue, DeBolt, Lindquist, Lofy, Wiesman, Bruce, Spitters, Ericson, Wilkerson, Tural, Diaz, Cohn, Fox, Patel, Gerber, Kim, Tong, Lu, Lindstrom, Pallansch, Weldon, Biggs, Uyeki, & Pillai, 2020). Coronavirus made its way to New York City six weeks later on March 1, 2020 and quickly gained a foothold on one of the densest cities in America. By April 8, 2020, six weeks after its first case, New York City hit a peak, daily death toll of 799 (Gierlinger, Barden, & Giammarinaro, 2020), a marker that it was the U.S. epicenter of the COVID-19 pandemic.

The pandemic quickly overwhelmed New York City's healthcare infrastructure and created unparalleled economic strife in addition to increased political and social tensions. Ronald

McDonald House of New York (RMH-NY), a non-profit organization located on 73rd Street in Manhattan, quickly found itself at the center of a crisis. As an organization that is committed to its mission of “providing temporary housing for pediatric cancer patients and their families,” they faced a unique challenge in trying to provide healthcare support services and “compassionate hospitality” to immunocompromised children and their families in the midst of the worst public health crisis of the last century.

This case study explores how RMH-NY shepherded its high-risk population and its employees through the epicenter of an unprecedented global pandemic. As mentioned, the compounding variables of health, economic, and sociopolitical impacts make the 2020 coronavirus pandemic a unique healthcare crisis to study. Furthermore, RMH-NY’s identity as an organization at the intersection of healthcare and hospitality makes for an extraordinary look at the complexity of healthcare service operations and what shifts may be required to integrate social determinants of health into the healthcare ecosystem.

Background: Case Timeline

In late December 2019, news began developing about a rare form of pneumonia spreading rapidly through Hubei province in China. The headlines caught the attention of the Operations team at RMH-NY, who were concerned about the seemingly rapid transmission of the virus and the potential for global spread. They escalated their concern to organization leadership, department heads, and a member of RMH-NY’s Board of Directors, an oncologist at one of their primary clinical partners. Information about the disease and its transmission was severely limited in the early days of its discovery and, therefore, no immediate action was being recommended.

Despite the ambiguous nature of the threat, RMH-NY continued to monitor and discuss the virus out of concern for their immunocompromised and therefore high-risk pediatric oncology patient population. On January 20th, 2020, the U.S. reported its first confirmed case of the newly titled COVID-19 novel coronavirus disease just outside of Seattle, Washington. On January 23rd, 2020, RMH-NY took the first of many preventive steps by implementing the COVID-19 screening questions for all visitors to the House.

During the month of February, RMH-NY continued to screen visitors, monitor the virus's spread, and brainstorm response plans. Much was still unknown about the virus and organizations such as the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) published conflicting information on mitigation strategies, leaving individuals and organizations confounded. On February 29th, 2020, the U.S. reported its first COVID-19 death and soon thereafter, on March 1st, 2020, New York City had its first confirmed case of the virus. These two events initiated the next level of precautionary policy changes at RMH-NY. Between March 4th, 2020 and March 11th, 2020, RMH-NY enacted policies that prohibited external visitors from coming to the House, cancelled volunteer programs and all future guest reservations, closed common spaces, initiated a low-contact meal delivery program, increased cleaning protocols and modified staffing schedules. Additionally, RMH-NY began actively “decreasing the footprint of the House,” or deliberately lowering the occupancy, by helping non-critical care families return home and transferring other families to alternative housing. The occupancy dropped from 87.8% in February to 57.8% in March and then to 25.5% by the beginning of April (Browne, 2020), giving RMH-NY the ability to spread patients out across the House and create an isolation floor should that be necessary.

On March 13th, RMH-NY had its first COVID-19 positive case in the House. Protocols were followed in order to relocate the family and conduct contact tracing. All staff were required to wear gloves, administrative staff were asked to work from home, and the Operations and Programs teams worked to reorient their family support services to no-contact and/or digital services. A second COVID-19 positive case was reported at RMH-NY on March 17th. Similar protocols were followed and no new cases have been reported. Meanwhile, New York City continued to battle the pandemic, reaching its peak daily death toll of 799 (Gierlinger, et al., 2020) on April 8th, 2020 while RMH-NY tried to continue serving its mission to safely house pediatric oncology patients in need of treatment. A full representation of the timeline is depicted in Figure 1.

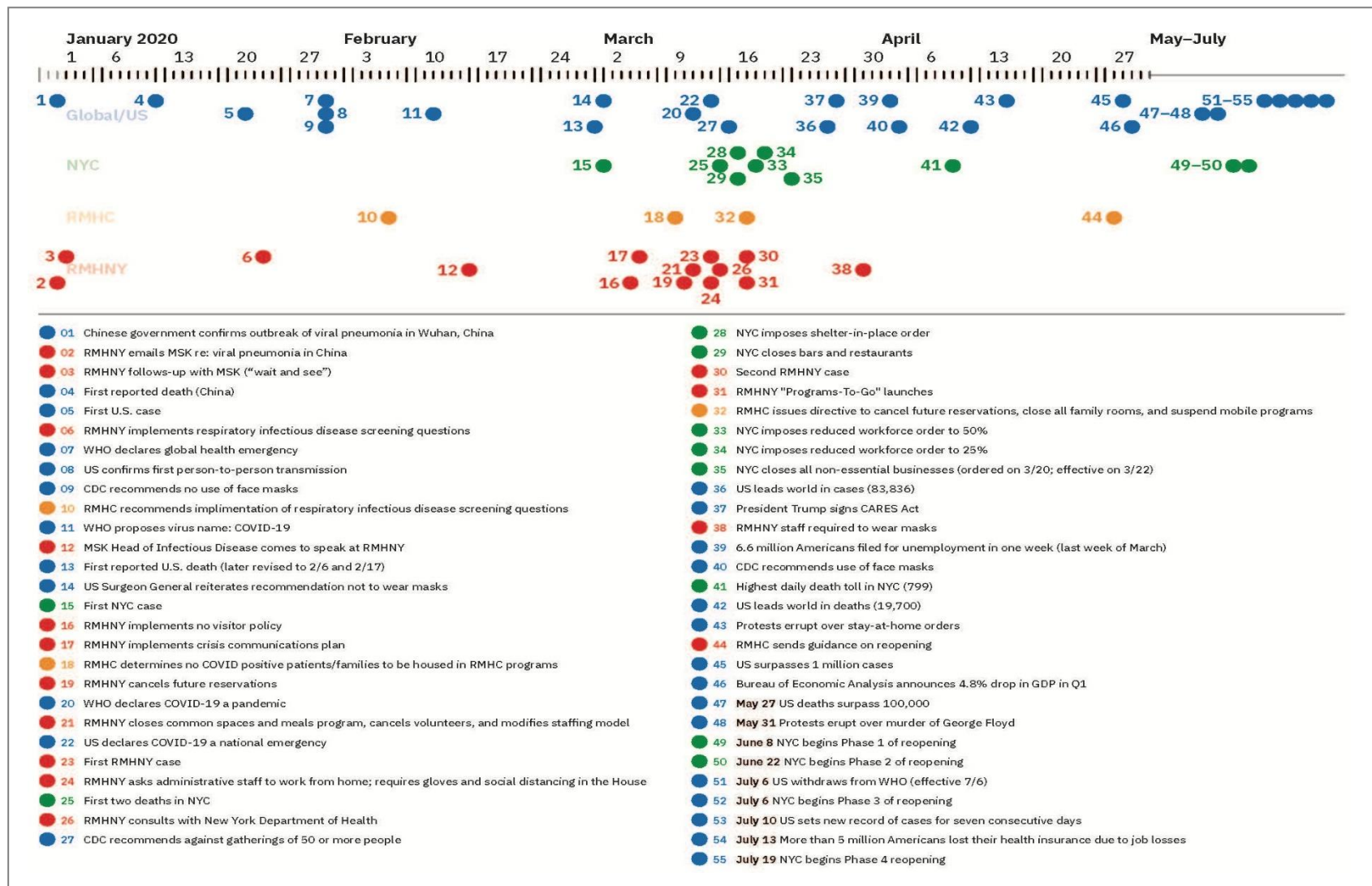


Figure 1. Case timeline.

In the midst of an unprecedented health, economic, and sociopolitical crisis, RMH-NY successfully avoided an outbreak at the House, maintained full operations and financial viability, and leveraged strategic partnerships to secure the aide they needed. Their story inspired this research as a way to understand how they successfully managed the crisis and where they might improve, what other organizations can learn from their experience, and what strategic implications this has for healthcare, hospitality, and the increasing number of organizations that are serving at the intersection of both.

Literature Review

The heart of the research questions at hand pertain to organizational behavior during a crisis. To that end, the authors reviewed organizational behavior literature through two lenses: organizations as entities or systems and organizations under adversity or crisis. First, we review the literature with regards to organizations as systems, considering the definition and purpose of business organizations as well as how they function as dynamic entities. Second, we review the literature with regards to organizational crisis management, looking at how crises are defined as well as the process for organizational crisis management.

Organizations as Systems

The study of business organizations has taken many forms and can be traced back as far as Adam Smith's discussion of organizational efficiency through the division of labor in *An Inquiry into the Nature and Causes of the Wealth of Nations* (Smith, 1723-1790). Organizational behavior research has come a long way since the 1700s, expanding its scope to include more holistic studies of organizational structures and how they function in society to meet their goals. One such advance has been the application of systems thinking to organizations. Since the 1970s,

systems thinking has offered a new perspective on the dynamic, inter-dependent nature of organizations and how they operate in relation to the context around them. More specifically, the “open system” perspective of organizations, considers them to be an entity that “interacts with its environment...draws input from external sources and transforms it into some form of output” (Nadler & Tushman, 1997, p. 26). For the purposes of this study, in which we aim to understand how an organization responded to an external crisis and engaged its broader community to adapt accordingly, the systems thinking perspective of organizations felt most relevant.

Systems thinking is rooted in biology and oriented around the idea that in living systems “the properties of the parts can be understood only from the organization of the whole” (Capra & Luisi, 2014). Inherent in that understanding is the idea that organizations are dynamic, living organisms whose efficiency depends on the interdependence of its components and the feedback loops between them (Meadows, 2008). To that end, organizations exhibit a few classic systems characteristics including internal interdependence, capacity for feedback, a desire for equilibrium, potential for alternative configurations, and an aptitude for adaptation (Nadler & Tushman, 1997). This perspective highlights the complexity of business organizations and their true nature as information-processing systems (Galbraith, 1973) in which communication is the lynchpin. It also highlights the flexibility and potential agility of an organization when understood as a sum of interdependent parts.

Furthermore, systems thinking understands that interdependent organizations naturally exhibit tensions due to competing demands. In fact, systems thinkers argue that the very nature of organizations exhibits duality and tension:

“On the one hand, [human organizations] are social institutions designed for specific purposes, such as making money for their shareholders, managing the distribution of political power, transmitting knowledge, or spreading religious

faith. At the same time, organizations are communities of people who interact with one another to build relationships, help each other, and make their daily activities meaningful at a personal level.” (Capra & Luisi, 2014, p. 315-316)

This perspective echoes the organizational behavior literature on the theory of paradox in organizations, which argues that long-term sustainability requires continuous efforts to meet multiple, divergent demands (Smith & Lewis, 2011). Furthermore, the last few decades have exacerbated that reality as a result of what Sérieyx (1993) calls, the organizational big bang: “The information revolution, the globalization of economies, the proliferation of events that undermine all our certainties, the collapse of the grand ideologies, the arrival of the CNN society which transforms us into an immense, planetary village - all these shocks have overturned the rules of the game and suddenly turned yesterday’s organizations into antiques” (p. 14-15).

In acknowledging the dynamic, interdependent, and context-reliant nature of organizations, systems thinking establishes the current frame for organizational behavior, which is an environment rife with volatility, uncertainty, complexity, and ambiguity (VUCA) (Whiteman, 1998). As Bennet and Lemoine have posited (see Table 1), organizations that respond to those characteristics by exhibiting agility, information-processing, restructuring, and experimentation, respectively, will succeed (Bennet and Lemoine, 2014).

Environment Characteristics	Effective Organizational Responses
Volatility: Relatively unstable change; information is available and the situation is understandable, but change is frequent and sometimes unpredictable.	Agility: Aggressively directing resources toward building slack and creating the potential for future flexibility.
Uncertainty: A lack of knowledge as to whether an event will have meaningful ramifications; cause and effect are understood, but it is unknown if an event will create change.	Information: Moving beyond existing information sources to both gather new data and consider it from new perspectives.
Complexity: Many interconnected parts forming an elaborate network of information and procedures; often multiform and convoluted, but not necessarily involving change.	Restructuring: Matching internal company operations to external complexities in order to mirror the environment.
Ambiguity: A lack of knowledge as to 'the basic rules of the game'; cause and effect are not understood and there is no precedent for making predictions as to what to expect.	Experimentation: Using intelligent experimentation to determine what strategies are and are not beneficial in situations where the former rules of business no longer apply.

Table 1. VUCA characteristics and responses; adapted from Benett & Lemoine, 2014

Organizations in Crisis

The organizational crisis literature consists of two broad conceptualizations: 1) *crisis as an event* and 2) *crisis as a process* (Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017). The literature that falls into the *crisis as an event* conceptualization, is largely focused on a retrospective look at the impact of a crisis or the “recovery and readjustment” phase (Pearson & Clair, 1998). The literature that falls into the *crisis as a process* conceptualization, is largely focused on “the need to understand crisis-fostering environments, processes of organizational weakening, crisis evolution, and how organizations respond to stages of a crisis” (Williams et al, 2017). Our perspective is that both conceptualizations are necessary to understand an organization’s experience in a crisis and they will both be relevant to this case study.

Crisis as an Event

In the *crisis as an event* literature, it is generally agreed that a crisis, as it is different from a mere business interruption, is a threat to an organization’s survival. As defined by Mitroff,

Pearson, and Pauchant an organizational crisis is a “disruption that not only affects a system as a whole but also has a threatening effect on its basic assumptions, its subjective sense of self, its ‘existential core’” (Mitroff, Pearson, & Pauchant, 1992, 244-245). Early research by Hermann resulted in the most influential model of organizational crisis: 1) it threatens high-priority values of the organization, 2) it presents a restricted amount of time in which response can be made, and 3) it is unexpected or unanticipated by the organization (Hermann, 1963). However, the most commonly cited definition is the following:

“An organizational crisis is a low-probability, high-impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly.” (Pearson and Clair, 1998, p.61).

Due to its understanding of crises as unscheduled, inconceivable, and low-probability events, the *crisis as event* conceptualization focuses less on an organization’s ability to proactively plan for a crisis (Rosenthal, 2003; Topper & Lagadec, 2013) and more on an organization’s reactive effort to bring a system back into alignment (Williams et al, 2017). One of the most commonly accepted organizational crisis response theories is that of threat-rigidity effects posited by Staw, Sandelands, and Dutton in 1981. These researchers studied organizational crisis response from a sociological and psychological lens, understanding that anthropomorphic responses were likely, given the nature of organizations as groups of individual human beings. Their theory was based on the two primary anthropomorphic responses to threatening situations: 1) restriction of information processing and 2) constriction of control (Staw, Sandelands, & Dutton, 1981). Given that understanding, their theory was that:

“a threat to the vital interests of an entity, be it individual, group, or organization, will lead to forms of rigidity. It is further proposed that threat-rigidity effects can be maladaptive [depending on the event type]. When the environment has changed

radically, flexibility and diversity in response have survival value (Staw, Sandelands, & Dutton, 1981, p. 502)."

Threat-rigidity theory emphasized the need for organizations to harness adaptive characteristics such as flexibility, transparency, and empowerment in order to effectively survive a crisis.

Further research on threat-rigidity theory went so far as to posit that if an organization could run counter to its natural anthropomorphic responses and harness adaptive characteristics, crises could serve as a positive "frame-breaker" for the organization (Tushman, Newman, W. & Romanelli, E. 1986). In other words, there is a potential upside to a crisis in that the threat places enough pressure on the organization to reveal cracks in the existing foundation that undermine the integrity of the organization but had previously gone unnoticed or were not prioritized. As mentioned, a crisis inherently threatens "the subjective sense of self" or the organization's "existential core" (Mitroff, et al, 1992). If, in the face of a crisis, an organization can subvert its instinct to be defensive and rigid, it can engage in double-loop learning, in which it can question both the current threat and program impact as well as the organizational policies and goals underlying that program (Argyris, 1977; Argyris and Schön, 1978; Argyris and Schön, 1996). This presents the organization with an opportunity for innovation and the chance to adapt in line with the changing environment.

Crisis as a Process

Historically, *crisis as a process* research has been less common than *crisis as an event* research. In what has been written on the topic, the *crisis as a process* perspective generally accepts that crises "1) develop over time and sometimes in phases...and 2) form a disjunction in normal functioning..." (Williams et al, 2017). This expanded temporal frame allows for the

exploration of pre-event, in-event, and post-event crisis management, which encouraged the development of more detailed crisis stages. To that end, Turner articulated six stages of crisis development: 1) a notionally normal starting point 2) an incubation period, 3) a precipitating event, 4) onset or immediate consequences of a collapse, 5) rescue and salvage (first stage of adjustment), and 6) full readjustment and the establishment of new norms (Turner, 1976).

Furthermore, the temporal frame allows the acceptance of layered crisis events such as the existence of a background, low-level, chronic crisis over which foreground, high-impact, acute crises can be layered (Roux-Dufort, 2009, Roux-Dufort, 2016). This concept represents the possibility that events of varying magnitudes may trigger distinct organizational responses within the same crisis. Said differently, it is possible to have multiple, nested crises in the same temporal frame.

Integration of Crisis as an Event and Crisis as a Process

In the last five years, organizational behavior researchers have begun to realize the need to integrate the *crisis as event* literature and the *crisis as a process* literature. Similar to the systems thinking perspective that recognizes organizations as comprised of both designed (stable) structures and emergent (dynamic) structures (Capra & Luisi, 2014), organizational behavior researchers have begun to recognize that organizations are comprised of “features” and “events” (Morgeson, Mitchell, & Liu, 2015). Features are the “salient, enduring, and stable [aspects] of individuals, teams and organizations” whereas events “call attention to dynamics, change, and system interrelationships” (Morgeson et al., 2015). The parallel is not exact in that organizational behavior researchers approach the dynamic element as events that are “bounded in space and time” (Morgeson et al., 2015), but the commonality between the two modes of thought is the understanding that all systems, including organizations, are comprised of both stable,

planned elements as well as dynamic, unplanned elements. Therefore, in studying an organization's response to a crisis, we need to understand both the features of the organization as well as the events that activate those features.

To that end, two seminal papers should be considered. The first, a 2015 article by Morgeson, Mitchell, and Liu proposed what they called Event System Theory (EST). EST is anchored in the open system theory of organizations and combines the concepts of features and events to state that events (including crises) should be analyzed and responded to based on their 1) **strength**, 2) **space**, and 3) **time** (Morgeson et al., 2015). **Strength** is comprised of 1a) *novelty*, the extent to which an event is different or varies from current and past behaviors, features, and events, thus representing a new or unexpected phenomenon (Lee & Mitchell, 1994; Morgeson, 2005), 1b) *disruption*, or the discontinuity in the environment (Hoffman & Ocasio, 2001), and 1c) criticality, or the “degree to which an event is important, essential, or a priority” to an entity (Morgeson & DeRue, 2006, p. 273). **Space** is comprised of 2a) *spatial direction*, or the direction an event's effect travels within or across an organization 2b) *event origin*, or the hierarchical level at which an event occurs, and 2c) *spatial dispersion*, or the extent to which effects dispersed throughout the organizational hierarchy holding time constant (Abbott, 1984). **Time** is comprised of 3a) *event duration*, or how long an event lasts, 3b) *event timing*, or the timing of the event as it relates to an organization's life cycle or development, and 3c) *event strength change*, or the extent to which the event becomes more or less novel, disruptive, and critical over time. Morgeson et al. argue that if an organization can use this framework to analyze a crisis from both the *crisis as an event* (“features”) and *crisis as a process* (“event”) perspective, they will have a higher likelihood of not only recovering, but thriving in a new and healthier direction.

The second article to be considered is a 2017 article by Williams, Gruber, Sutcliffe, Shepherd, and Zhao proposing a fusion of crisis management literature and resilience research (Williams et al., 2017). Organizational resilience research, which has not been discussed thus far, is the study of an organization's ability to absorb strain and preserve or improve functioning, despite the presence of adversity (Vogus & Sutcliffe, 2003). Resilience as a concept is aligned to *crisis as an event* literature in that it is focused on the study of organizational features or capabilities that determine how an organization is impacted by and responds to a crisis. Thus, in their proposal to merge crisis management literature and resilience research, Williams et al. are once again integrating *crisis as an event* and *crisis as a process* literature.

Williams et al. contribute two key insights to this discussion. First, they articulate that certain critical themes emerge when the stable and dynamic elements of organizational crisis theories are combined. More specifically, they identify 1) the role of crisis management as a normative and staged activity that should be planned for and practiced by organizations, 2) the role of leadership in crisis to restore equilibrium, and 3) the importance of crisis management teams (CMTs) to create a shared understanding across the organization and balance bureaucracy with empowerment and flexibility (Williams et al., 2017). Second, the authors contribute a temporal conceptualization of resilience that reflects the *crisis as process* literature and posits that organizations can practice resilience pre-, during, and post-adversity. Conceptual literature had typically focused on how organizations could develop features and capabilities in advance that would support them in the crisis management process. However, empirical research revealed an expanded conceptualization that included pre-planning but also noted elements of resilience during in-crisis organizing and post-crisis reflection. Examples of resilience at each phase include building pre-crisis resource endowments (Williams et al., 2017), in-crisis community

support appeals (Berkes & Ross, 2013), and post-crisis double-loop learning (Argyris, 1977; Argyris & Schön, 1978; Argyris & Schön, 1996).

Crisis Leadership

As Williams et al. highlighted, it is nearly impossible to discuss organizational behavior in crisis without acknowledging the importance of leadership. In a crisis, leaders play the critical role of helping the organization navigate the phases and impacts of crisis in order to mitigate negative effects (Auf Der Heide, 1989; Drabek, 1985). However, certain styles of leadership are considered more effective during a crisis than others. Waldman, Ramirez, House, and Puranam (2001) found that environmental uncertainty moderated the relationship between organizational performance and two specific leadership styles: transactional and charismatic. Transactional leadership is a common leadership style in which the leader focuses on operating within the existing organizational structure and frequently uses exchange and rewards systems (e.g., promotions, grades) as well as a focus on continuous improvement (e.g., identifying and rectifying mistakes and irregularities) to lead (Pawar & Eastman, 1997; Bass, 1985; Burns, 1978; Waldman et al, 2001; Northouse, 2019). Charismatic leadership, on the other hand, is a more relational style of leadership in which followers are engaged and motivated by the leader's articulation of the organizational mission and the demonstration of high-performance expectations (Klein & House, 1995). In their research, Waldman et al. found that despite the moderating effects of uncertainty on both Transactional and Charismatic leadership, Charismatic leadership actually predicted organizational performance during uncertainty, but transactional leadership did not (Waldman et al., 2001). One explanation for this might be the research that calls attention to organizational breakdowns of shared meaning and role structures in the wake of

a crisis (Turner, 1976; Pearson & Clair, 1998) and the need to resolve those breakdowns to mitigate negative effects.

Crisis framing is another leadership responsibility that can have a direct impact on a successful crisis response. The concept of framing is derived from sociology, but has been applied across the social sciences. Goffman referred to frames as “schemata of interpretation” and described them as a way for individuals to interpret situations by allowing them to locate, perceive, identify and label events or experiences (Goffman, 1974, p.21). In crisis situations, framing often provides a constructive redirection of the human need for attribution and blame (Rao & Greve, 2018). Therefore, leadership’s consistent framing of a crisis as an external threat, may allow an organization to more effectively exhibit cohesion and coordination (Staw et al., 1981). Furthermore, framing provides a specific example of sensegiving and sensemaking in crisis in order to enable collective action (Gioia & Chittipeddi, 1991; Weick, 1993; Maitlis, 2005).

One final crisis leadership role that should be highlighted is the role of leaders in adaptive organizational learning, which is defined as an organization’s ability to change behaviors or routines in response to an experience (Glynn, Lant, & Millikin, 1994). We previously mentioned that crises offer an acute opportunity for organizational reflection and double-loop learning. However, the initiation of self-reflection often requires leadership participation and the process of thorough reflection and creative problem-solving requires leadership engagement, listening and, in some cases, dispersion of control (Staw et al., 1981).

Methods

The opportunity to conduct this research developed out of a strategic partnership between the Cornell Institute for Healthy Futures (CIHF) and RMH-NY. CIHF is believed to be the first academic center in the United States to combine the study of hospitality, healthcare, and design through a partnership between Cornell's School of Hotel Administration, its Sloan Program in Healthcare Management, and its Department of Design and Environmental Analysis. RMH-NY is an organization that has long-since grappled with the unique challenges of operating a business at the intersection of healthcare and hospitality and for whom the study of this space has great value. Therefore, in 2018, the current President and CEO (second author) developed a strategic partnership with CIHF shortly after its inception in 2015. Cornell researchers have been partnering with RMH-NY ever since.

In the immediate aftermath of the first wave of coronavirus in New York City, CIHF and RMH-NY discussed the research value of studying coronavirus as a disruptive event. This global pandemic had the potential to shed light on how non-profit organizations navigate crisis and how organizations at the intersection of healthcare and hospitality might understand their challenges and trade-offs better in order to engage with them more productively. In May 2020, CIHF and RMH-NY agreed to partner on the research. RMH-NY's President and CEO leveraged her doctorate in public health to serve as the Principal Investigator on the RMH-NY side (second author) and one of Cornell's doctoral candidates studying service operations management and patient experience, served as the Principal Investigator on the CIHF side (first author). This unique industry-academic partnership served as the backbone for the research design, execution, and insights.

As mentioned above, this research was born out of innate curiosity about the organizational impact of the unique events of the time. Thus, it is both explorative and generative in nature and both qualitative and quantitative methods were included in the research design. The organization was chosen as the unit of analysis to support research questions surrounding the impact of disruptive events on organizational behavior and identity. A single case study approach was selected to allow for breadth of exploration across the vast web that is an organizational system.

In alignment with that perspective of organizations as systems, the research team developed a research design that is reflective of an open systems perspective of organizations (Nadler & Tushman, 1997). As discussed in the literature review, open systems theory posits that all components of an organization are interdependent with one another as well as with the environment in which the organization finds itself (Nadler & Tushman, 1997). Therefore, the research focus of this paper required a research design that represented all primary elements of RMH-NY's organizational system, as outlined in Figure 2.

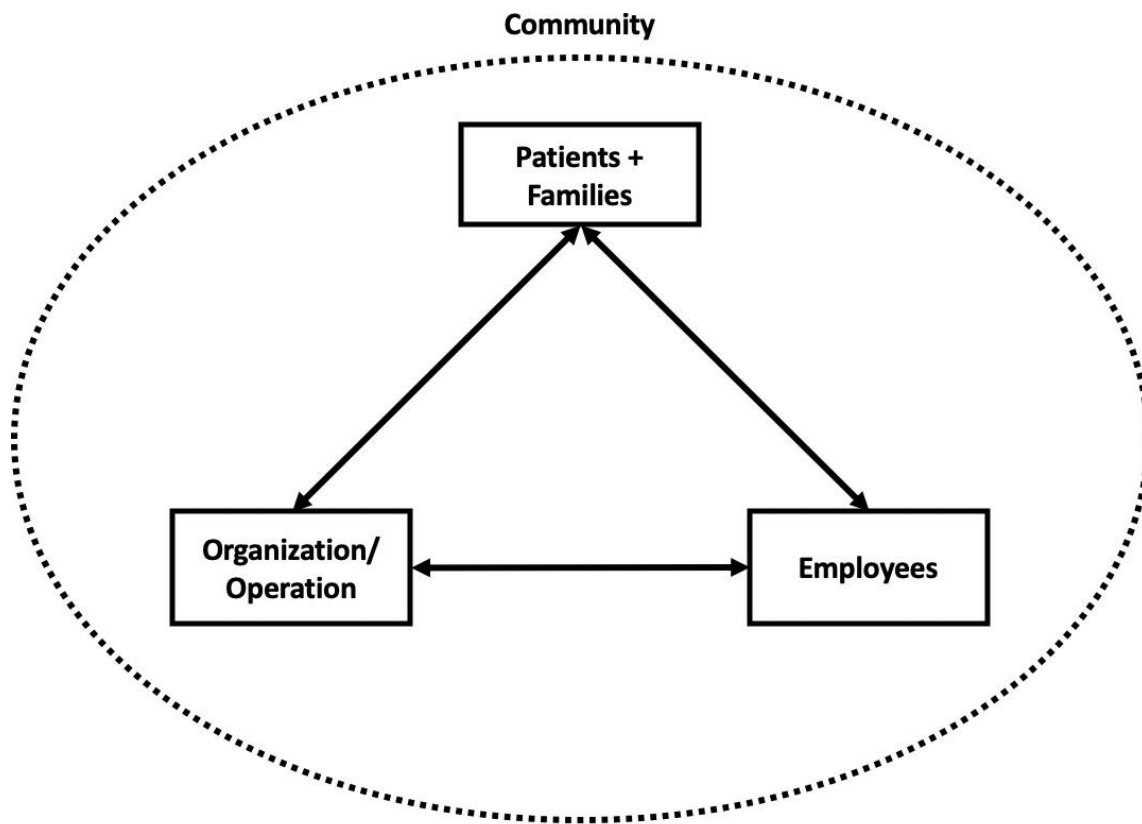


Figure 2. RMHNY Systems Diagram

To that end, the research design included data gathering from RMH-NY families, RMH-NY employees, and RMH-NY organization administrators. In an effort to capture the system's close interaction with and dependence on its environment and the community, the research team also gathered data from RMH-NY's key strategic partnerships such as its umbrella organization (Ronald McDonald House Charity), members of its Board of Directors, representatives from referral hospitals, and the New York City Department of Health. Those relationships are depicted in an enhanced systems diagram in Figure 3.

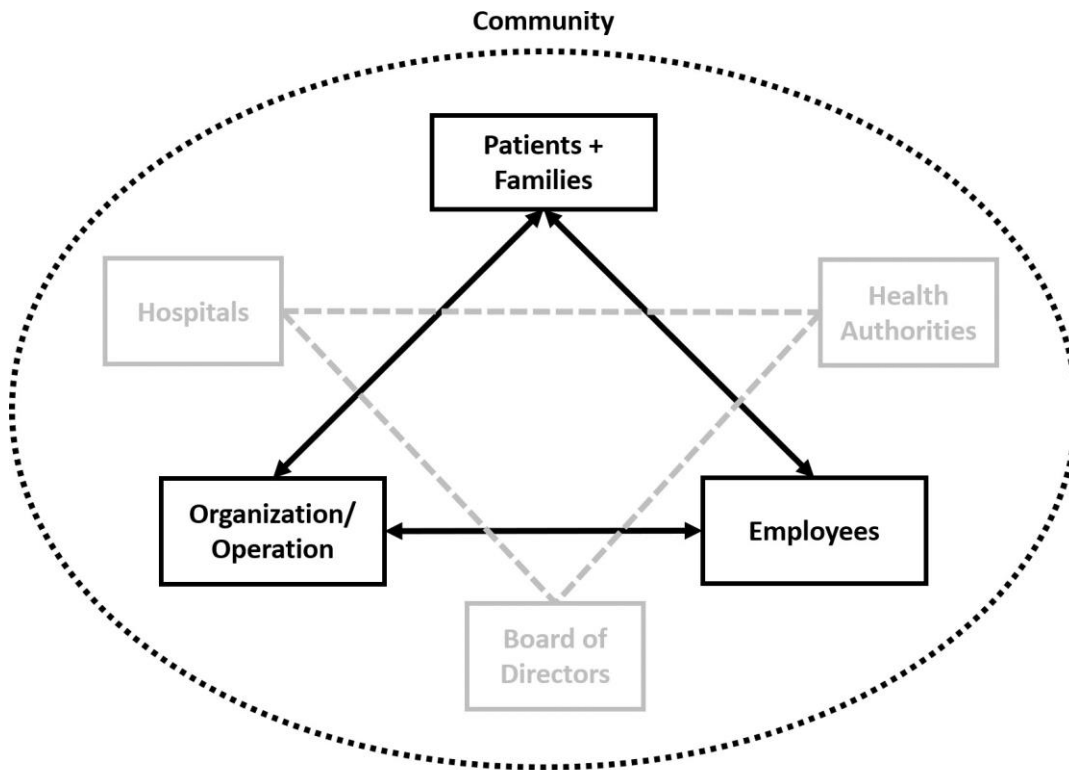


Figure 3. RMHNY systems diagram with partners

Grey = Partners

This theory-driven approach to the research design aligned well with the qualitative principle of triangulation of source, adding rigor, breadth, and depth to the study (Denzin & Lincoln, 1998) and enhancing its construct validity (Yin, 1994).

In addition to triangulation of source, the research team designed its approach in line with triangulation of method (Lincoln & Guba, 1985) through the use of: 1) interviews, 2) archival data and 3) surveys. Interviews were the predominant method used in this study and they were focused on key decision-makers such as RMH-NY employees, administrators, and Board Members. Archival data supported the case timeline, language use and framing, as well as communication style and cadence. Surveys were used to gather data from front-line employees for whom time would not allow interviews and RMH-NY families for whom an interview was

too overwhelming given the chaos of managing their child’s medical care during a pandemic. An overview of the system components, research methods, and interviewees is outlined in Table 2.

System Component	Method	Interviewees
1 Organization	Interviews	-RMHNY President & CEO -Operations Department -Programs & Volunteers Department -Human Resources Department -IT Department -Finance Department -Development Department -Strategic Partnerships Department -Communications Department
2 Patients + Families	Survey	-15 families
3 Employees	Survey + Archival Data	-All employee survey (67.7% response rate) -Volunteers
4 Relationships	Interviews + Archival Data	-Internal communications -External communications
5 Context + Community	Interviews + Archival Data	-Ronald McDonald House Charities -Ronald McDonald House New York Board of Directors -Hospital Partners -New York State Department of Health

Table 2. System component, method, and data source

All methods were subject to the ethical considerations of respect for persons, justice, and beneficence (Markham & Buchanan, 2015). Where appropriate, the research design was reviewed by the Cornell University Internal Review Board and cleared with minimal risk to participants. All Cornell University and RMH-NY researchers are trained in human subjects research and the two organizations have signed the appropriate research agreements to ensure alignment of research goals and dissemination of findings.

Qualitative Research | Interviews

In total, 10 hours of semi-structured interviews (ranging from 30 minutes to 1 hour) were conducted with 18 people, covering 11 RMH-NY departments, the Board of Directors, and RMH-NY’s primary hospital partner. The Principal Investigator suggested the interviewees to RMH-NY leadership based on alignment of the open systems model of RMH-NY (Figure 2) with its organization chart. RMH-NY leadership refined that list of interviewees to include

additional decision-making parties within the organization as well as key partnerships outside of the organization.

Interviews were conducted via Zoom. Consent forms were emailed to participants before the interview, parameters were reiterated at the beginning of the interview, and verbal consent was requested before the interview could begin. All interviews were audio and video recorded to assist with transcription. Consent to record was also restated and agreed to before the interview began. Upon completion, interview recordings were downloaded and transcribed by the Research Assistant and reviewed by the Principal Investigator.

Between interviews, the Principal Investigator used a salience hierarchy (Wolfinger, 2002) to conduct a preliminary analysis of the data. This method supported the development of additional questions and clarifications to support a comprehensive understanding of the topic. Upon completion of the interviews, the Principal Investigator and the Research Assistant conducted a more formal analysis using naturalistic inquiry and, more specifically, the card sort method. Given the current pandemic and the remote nature of working, the research team had to adapt the card sort method to a virtual environment. Therefore, the method involved the Principal Investigator and the Research Assistant developing their own card coding scheme. They then presented their coding schemes on a Zoom call and questioned or challenged one another where there were discrepancies. The Principal Investigator then reconciled the two coding schemes and applied the final version to the interview data.

Qualitative Research | Archival Data

Archival data was the second element of the research design. In total, 83 documents were analyzed by the research team. The documents represented leadership and organizational communications with various stakeholders during the initial phases of the coronavirus pandemic.

The first analysis of the archival data was a matrixed analysis looking at the temporal cadence of communication as well as the intended audience. The physical documents were placed on a timeline that also marked key internal and external events, to better understand the context of decision-making as well as tone and content.

The second analysis of the archival data was a textual analysis of the content. The Principal Investigator reviewed all documents and applied the research team's established coding scheme to the archival data.

Quantitative Research | Surveys

The third and final method in the research design was the use of surveys. The first survey was conducted as part of RMH-NY's regular employee survey program. It was developed by RMH-NY's Human Resources staff and included the Gallup Q12 Employee Engagement questions that are administered annually as well as 5 Gallup-designed, COVID-specific questions to determine frontline employee sentiment about the organization's pandemic response. The survey was administered in the middle of June 2020 and employees were given three weeks to respond. The verbatim employee survey questions are outlined in Table 3.

Number	Question	Answer Choices				
		Strongly Disagree 1	2	3	4	Strongly Agree 5
Gallup Q12 Employee Engagement Survey						
Q1	I know what is expected of me at work.					
Q2	I have the materials and equipment I need to do my work right.					
Q3	At work, I have the opportunity to do what I do best every day.					
Q4	In the last 7 days, I have received recognition or praise for doing good work.					
Q5	My supervisor, or someone at work, seems to care about me as a person.					
Q6	There is someone at work who encourages my development.					
Q7	A work, my opinions seem to count.					
Q8	The mission of the organization makes me feel my job is important.					
Q9	My fellow employees are committed to doing good quality work.					
Q10	I have a best friend at work.					
Q11	In the last 6 months, someone at work has talked to me about my progress.					
Q12	The last year, I have had opportunities to learn and grow.					
Overall Satisfaction Question						
OSAT	I am satisfied with my overall work experience at Ronald McDonald House New York (RMHNY).					
Gallup COVID-19 Response Employee Survey						
CV1	RMHNY's overall response to COVID-19 was handled well.					
CV2	My leadership has a clear plan of action.					
CV3	I feel well prepared to do my job.					
CV4	My supervisor keeps me well informed about what is going on.					
CV5	My organization cares about my well-being.					

Table 3. RMHNY employee survey questions, 2020

Of the 62 full-time employees to which the employee survey was sent, 42 employees responded, resulting in a 67.7% response rate. Employee survey data from the previous three years was also provided for the purposes of trend comparisons. Response rates for those surveys were equally strong, averaging 67.6%. Given the small sample size and the lack of explanatory variables in the employee survey, only descriptive and trend analyses were applied to this data.

The second survey was a 13-question survey of the RMH-NY families who were in residence during the pandemic. The survey was developed by the Principal Investigator and families were recruited by RMH-NY via their private Facebook group. Given the chaos surrounding RMH-NY family relocations during the height of COVID-19, the family survey was not administered until October 2020. Families were given two weeks to respond.

The survey was comprised of three sections: 1) Stay details 2) RMH-NY COVID response and 3) demographics. At the request of RMH-NY families and RMH-NY support staff, the COVID-specific section was limited to three questions, so as not to place additional burden

on the families. Two COVID questions are multiple choice and were grounded in the Principal Investigator's research on health consumer experience. The third COVID question was open-ended to facilitate free text responses by the families and ensure a comprehensive understanding of their experience. Demographic questions were chosen carefully with a strict eye toward respect for persons and beneficence and were therefore intentionally limited. The verbatim family survey questions are outlined in Table 4.

Number	Question	Answer Choices
Stay Details		
1	Approximately, when was your stay with Ronald McDonald House New York (RMHNY)?	Month: [Dropdown menu for month] Year: [Dropdown menu for year]
2	Approximately, how long was your stay at RMHNY?	-1-2 -3-5 -6-10 -11-14 -14+
3	Where did you travel from?	-Within U.S. -Outside U.S. -Prefer not to answer
COVID-19 Experience		
4	RMHNY's overall response to COVID-19 was handled well: <i>In your own words, please tell us why you chose that response.</i>	1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree [Free text]
5	RMHNY cared about our well-being during COVID-19: <i>In your own words, please tell us why you chose that response.</i>	1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree [Free text]
6	Is there anything else you would like us to know about RMHNY's response to COVID-19?	[Free text]
Demographics		
7	What is your age?	-Under 18 -18-25 years old -26-30years old -31-40years old -41-55years old -56-75 years old -Over 75 -Prefer not to answer
8	What gender do you identify as?	-Male -Female -Non-binary/third gender -Other (specify) =>[Free text] -Prefer not to answer
9	Are you married, divorced, separated, widowed, or single?	-Married -Divorced -Separated -Widowed -Single -Other (specify) =>[Free text] -Prefer not to answer
10	What is your current work status?	-Full-time -Part-time -On leave -Student -Not employed -Other(specify) =>[Free text] -Prefer not to answer
11	What is your partner's work status? [Skipped if not applicable based on Question 9]	-Full-time -Part-time -On leave -Student -Not employed -Other(specify) =>[Free text] -Prefer not to answer
12	What kind of health insurance do you have?	-Medicare/Medicaid -Preferred Provider Organization (PPO) -Health Maintenance Organization (HMO) -Other(specify) =>[Free text] -Uninsured -Don't know -Prefer not to answer
13	What best describes your ethnicity?	-American Indian/Aleut/Eskimo -Asian -Black/African American -Latino/Hispanic -Native Hawaiian/Pacific Islander -White/Caucasian -Unknown -Other/Prefer to self-describe =>[Free text] -Prefer not to answer

Table 4. RMHNY family survey questions, 2020

Of the 264 families to which the family survey was sent, approximately 250 reached valid email addresses for families who had stayed at RMH-NY during the first wave of the coronavirus pandemic. Only 15 families responded to the survey in its entirety, resulting in a 6.0% response rate. The small sample size negated the original intent to apply ordinal logistic regression to the family survey data and therefore, only descriptive statistics and content analysis of free text responses was conducted with this data.

Results

As discussed, the research methods for this study included 1) interviews, 2) archival data and 3) surveys. More specifically, the results for this study are based off of the data analysis of 1) 14 RMH-NY department, Board Member, and hospital partner interviews (totaling 18 people interviewed), 2) 83 pieces of archival data representing internal and external COVID-19 crisis communications between March 9th, 2020 and May 21st, 2020 and 3) two surveys; one conducted with RMH-NY employees and the other conducted with RMH-NY families who were guests at the House during the COVID-19 pandemic.

The data analysis was conducted through the same two lenses that were outlined in the literature review: organizations as systems or entities and organizations under adversity or crisis. Using the inductive, naturalistic inquiry, modified card-sort method, the data analysis bore out in a similar pattern to what was found in the literature in that the second lens, organizations in crisis, broke down into four, broad sub-categories: crisis as an event, crisis as a process, integration of crisis as an event and crisis as a process, and crisis leadership. Within those categories, however, our data analysis revealed both alignment with and deviation from existing literature, but the broad categories proved a beneficial structure for the organization of our findings. Thus, the results of the data analysis are organized into those four, main categories:

organizations as systems, crisis as an event, crisis as a process, integration of crisis as an event and crisis as a process and crisis leadership.

Organizations as Systems

Employee interviews, archival data, and the employee survey were the three most useful data sources in the process of understanding the general structure and operating model of RMH-NY. Combining these three data sources revealed systems themes that included interdependence, context reliance, and dynamism. They also revealed a reality in which feedback loops (communications) were the connective tissue between the interdependent parts and the organization's dynamic relationship with both internal and external stakeholders. These key findings and supporting data are provided in Table 5.

Organizations as Systems: System Characteristics		
Characteristics	Definition	Quotes
Interdependence	"All members of an ecological community are interconnected in a vast and intricate network of relationships...They derive their essential properties and, in fact, their very existence from their relationships to other things." (Capra & Luisi, 2014, p.353)	- <i>"At that point, we were depending on each other."</i> - <i>"So, those are my highlight points that I wanted to bring up was just that we had to rely on all the staff..."</i> - <i>"But collaboratively, with an eye on the sense of urgency and also knowing that everybody's sleeves were rolled up, and we were working in concert with each other and communicating continually about every single thing we were all doing because we knew that everything we were doing was touching somehow what everyone else was doing."</i>
Context Reliance	"Networks that are operationally closed but open to continual flows of energy and resources..."(Capra & Luisi, 2014, p.353)	- <i>"So, in that first week, I think we produced about nine memos for different stakeholders..."</i> - <i>"[We're] looking at it through the lens of what companies should be strategically aligned with and figure out sustainable, long-term relationships that may be very important now, but will be even more important as we grow into the relationship in the future?"</i> - <i>"...not only what was going on with the families, but what was going on with the partners and hospitals."</i> - <i>"The value of partnerships are being seen in a different light, and the potential of partnerships are being seen in a different light..."</i>
RMHNY Board of Directors	The 54-member Board of Directors at RMHNY is comprised of business leaders from financial, medical, retail, media, legal, apparel, and maritime industries. Their role is to assist the organization in fulfilling its mission, providing financial and strategic planning guidance, and ensuring legal and ethical oversight.	- <i>"I could have a conversation with [our Board Members]...I could talk to them all night in a crisis until it is resolved."</i> - <i>"...everybody...wants good numbers quicker, better, faster...[They had] decisions to make...everybody wants it to be accurate."</i> - <i>"...the transition through the initial stages of the crisis were basically managed by almost constant phone calls or text messages between [the Board and RMHNY]."</i>
Hospital Partners	RMHNY partners with 8 major hospital systems in the New York Metro area to offer pediatric cancer patients and their families temporary housing while the child is receiving treatment in NYC.	- <i>"We have a very close working relationship with [hospital partner]."</i> - <i>"This really spoke to our relationships with our hospital partners."</i>
Vendors	As a non-profit with limited resources, RMHNY develops strategic partnerships with vendors across the country to fulfill operational needs for which they do not have the financial means or the expertise to offer.	- <i>"For example, if we didn't know how we would get food, we had a partnership with God's Love We Deliver...So, immediately, the thought was, we're going to need some way to get products in bulk and meals...[since] we don't have access to restaurants, because...the restaurants were closing."</i> - <i>"So, I called the CEO of [another cancer nonprofit]...She actually gave [masks] from her own personal stockpile...She gave us, I think, 700."</i> - <i>"I reached out to another organization that I knew provided special support for cancer caregivers and patients called Family Reach...and we were able to also get \$500 donations, financial support directly to the families because again, they were staying well beyond their anticipated stay and needed basic things for their child and themselves..."</i> - <i>"I reached out to Lyft...They had launched a program called Lyft Up, and they were providing free private rides to nonprofit organizations to help with that, with their delivery of services to special populations...within, um, you know, a couple of hours [they] said we're going to put you in the program. We're going to give you vouchers for your patients to take private Lyft rides to and from the hospital...So that was a huge win because we had the assurance that Lyft would be responding to a need that we had not anticipated nor budgeted for."</i>
Dynamism	"[Behavior patterns] are non-linear and may include the emergence of new order at critical points of instability."(Capra & Luisi, 2014, p.345)	- <i>"We immediately did things that were completely counter to how we have delivered our mission up until that day."</i> - <i>"For 40 years it was all about connection. Peer to peer. Caregiver to caregiver. Groups convening. Don't stay in your room. We want you out in the playroom. We want you in the living room. We want you in the communal dining space.....then, it just stopped. It wasn't even a phased in stop."</i> - <i>"So, you know, in a couple of short weeks, we had to really react and respond accordingly and work in ways we had never imagined and work more quickly and be more decisive than we had ever imagined we'd have to be."</i>
Volatility	"Relatively unstable change; information is available and the situation is understandable, but change is frequent and sometimes unpredictable." (Bennet & Lemoine, 2014)	- <i>"It was just like nothing I've ever experienced before in terms of dealing with a crisis. Not that you would know necessarily all the steps, but it was like we were dealing with something that you couldn't see. Obviously, we can't see it, but really, we were just going, every moment was just new territory for us."</i> - <i>"We were going around crossing all t's and dotting all i's as fast as information was coming in."</i>
Uncertainty	"A lack of knowledge as to whether an event will have meaningful ramifications; cause and effect are understood, but it is unknown if an event will create significant change." (Bennet & Lemoine, 2014).	- <i>"And there was so much unknown that it was really this almost like you knew there was a tidal wave that was going to perhaps become a tsunami, but you didn't know when or where it would hit, it that's the metaphor."</i> - <i>"I think all of us in the very beginning did not have any idea of the magnitude and the impact that COVID-19 would have."</i>
Complexity	"Many interconnected parts forming an elaborate network of information and procedures; often multiform and convoluted, but not necessarily involving change." (Bennet & Lemoine, 2014)	- <i>"I think what's important is that you have a lot of things going on...So you have the internal and the external and you have the personal and you have the professional..."</i> - <i>"...now, in 2020 where not only were you unsure about the economy being able to come back... but also that normal life may not actually be able to return as well...and...the added hit now of civil unrest...just compounds the problem..."</i>
Ambiguity	"A lack of knowledge as to 'the basic rules of the game' cause and effect are not understood and there is no precedent for making predictions as to what to expect." (Bennet & Lemoine, 2014)	- <i>"We didn't have clear information."</i> - <i>"...so you needed to make these decisions without the information that you would normally be able to get."</i> - <i>"We did not know enough and we still don't."</i>
Feedback Loops	"A feedback loop is a closed chain of causal connections from a stock, through a set of decisions or rules or physical laws or actions that are dependent on the levels of the stock, and back again through a flow to change the stock." (Meadows, 2008, p. 1) "Feedback allows organizations to correct errors and even to change themselves." (Nadley & Tushman, 1997)	- <i>"Over-communication is key."</i> - <i>"It was important for them to know 'What is leadership doing? Who's telling us what to do?'"</i> - <i>"So, over-communication at every level became highly, highly important."</i> - <i>"I found we had much closer communication with our other department heads. Frankly, I found it quite nice that I knew almost with 100% assurance that when I called somebody, they'll pick up the phone"</i>

Table 5. Common characteristics of organizations as systems as exhibited by RMHNY

Within dynamism, there was substantial evidence for more nuanced elements of the construct that reflect recent management literature on an increasingly VUCA environment, defined as an environment exhibiting more volatility, uncertainty, complexity, and ambiguity (Bennet and Lemoine, 2014).

Furthermore, the data revealed that RMH-NY employed several strategies or functions to manage its organizational system in that environment. To meet the demands of an interdependent, context reliant, dynamic system bound together by feedback loops, they prioritized alignment, relationship management, creativity, and decision structures. To address the VUCA environment specifically, there was evidence of agility, information, restructuring, and experimentation; the four functions outlined by Bennet and Lemoine as beneficial responses. These key findings and supporting data are provided in Table

Organizations as Systems: System Responses			
Characteristics	Responses	Definition	Quotes
Interdependence	Alignment	"The basic hypothesis of the model is this: Other things being equal, the greater the total degree of congruence, or fit, among the various components, the more effective the organization will be." (Nadler & Tushman, 1997, p.34; describing what they term "The Congruence Model")	- "So, but I would say, you know, just focusing on staff, so, finding the right balance as it relates to the core mission. The core mission is having served families. If you did nothing else, making sure that those families have what they needed to shelter-in-place, right?...If the core mission is to serve families, then it doesn't matter what you do. It doesn't matter what your team does, right? Because what I need you to do is make sure that these families get served." - "[Our CEO] had her eye on the whole...whole context of the situation and made sure that we're all working, like, rowing together in one direction..." - "So, we had to make sure that we were not only conveying it in the right manner to the families but also, we were aligned with the hospitals that those families are going to. We're aligned with the CDC. We're aligned with what New York City is saying. So, there was a lot of forces. If you see those memos, there's like 10 organizations that we had to align with to say we received guidance from RMHC, our hospital partners - we're taking all those things into account, but then putting it into messaging that comforts our families still."
Context Reliance	Relationship Management	"The relationships between organizations and the publics on whom its success or failure depends." (Cutlip, Center, & Broom, 1994, p.2)	- "So, here's where relationships come in...[It seemed] like it was reactive, yes, but it was proactive. It was proactive in that we had the relationship already established..." - "And you're concerned about them from a genuine point of view of their health and that you have built up a relationship with them and you want to maintain that relationship. It's not about the money. It's, it's about keeping that relationship moving forward as an, as an investment." - "When all of that business relationship goes away, all you've got left is that personal relationship and if you haven't tried to maintain that during the tough points, when somebody is sitting at home saying, 'I don't know what to do next,' and it's your telephone call and you're a bright spot in the day and you're saying, 'Hey, look, the kids and families at Ronald McDonald House are still doing well,' you know, that we still have people there and responsibilities...It refocuses the investment that they once made for this organization...and this is how they're carrying forward...I'm going to be happy to have been part of this thing."
Dynamism	Creativity	"Using your imagination to create something new in the world." (Kelley & Kelley, 2013, p.3) In neuroscience, more commonly defined as 'divergent thinking': "The process or ability to generate new and creative ideas to given open problems." (Flaherty, 2005, Sternberg and Lubart, 1996)	- "So, there was a lot that went into that, obviously, and there was a lot of creation of things that didn't exist." - "It really challenges us to think creatively and to be innovative in how we communicate." - "Those are things we haven't ever done before."
Volatility	Agility	"Building slack and creating potential for future flexibility." (Bennet & Lemoine, 2014)	- "And you have to be very agile in your perspective and your ability to function. So nimble that you can go with the punches." - "We rose to the occasion and created a plan while it was happening." - "If we're flexible and fluid enough then, you know, we should be able to, hopefully, weather the storm of what is coming at us."
Uncertainty	Information	"The ability to move beyond existing information sources to both gather new data and consider it from new perspectives." (Bennet & Lemoine, 2014)	- "But, what I will say was extremely helpful in both the, our decision-making process and in calming people down, giving direction, bringing guidance to the Board, was the consultation that I had with the Department of Health. Because as a local health authority, they had the ability to provide guidance on what they thought we should be doing." - "...But, bringing in the experts...we feel very good about how we've handled it."
Complexity	Restructuring	"'Match[ing]' (firm) operations and processes to mirror environmental complexities." (Bennet & Lemoine, 2014)	- "...we invited others [to the leadership calls] who were critical to the team...And so, we expanded the team, the leadership team..." - "So, I think from an HR perspective, they were mindful of, you know, what scheduling would look like and, you know, if...if we're overtaxing any one group...And so, that plan really helped support the infrastructure that was in place and pulling people from, you know, all the different areas. Every group had to be part of what the new mandate was as opposed to people just taking care of their own areas of work." - "...we kind of have to quickly pivot to help adjust people from working from home...it was a new concept for a lot of people in our organization."
Ambiguity	Experimentation	"[Trying new things] to determine what strategies are and are not beneficial in situations where the former rules of business no longer apply." (Bennet & Lemoine, 2014)	- "We continue to pivot regarding, like, just policy and strategic changes throughout this time." - "Everyone is pivoting very quickly to think about process, you know, and to figure it out. We have a very, very resourceful group..." - "So, for the programs piece...it was making certain that the gaps are always full for families...Now, we're at a point of editing what we have, you know?It's not...we don't need to create anymore. We've created so many programs virtually. Now we're going to take it back a notch and edit and see what is sustainable..."
Feedback Loops	Decision Structures	Designed organizational infrastructure to support the action or process of making decisions.	- "So, we had minimum, we had two calls a day...individual leaders were making the decisions about their...their direct programs and then advising everyone of what happened." - "I think one of the things that was really important is not only the transparency and the over-communication, but the equity and inclusion. Inclusion of a broader team of people who would not necessarily be considered the decision-maker, but were now empowered to be part of the decision-making process." - "I think...implementing daily calls was actually kind of smart. And we actually had calls twice a day where we had to communicate what we were doing and what challenges we had. And, I think that communication kind of made it into a dynamic conversation where we didn't necessarily, it didn't feel like we had to get approval for doing something if everyone consented to...to go down this path or get...obtain this product, I think, or we had to do x, y, and z. Um, I think it was more of a consensus from an organization or from a leadership standpoint."

Table 6. Responses or functionalities developed by RMHNY to manage systems dynamics

The data also revealed more nuanced insights into the nature of organizational approaches or capabilities used to manage dynamic systems. It revealed a duality of effect that had not been a focus of the existing literature. In other words, the literature commonly discusses the “light” side of adaptive organizational capabilities in that they can give organizations the opportunity to respond, adjust, and innovate forward. However, the RMH-NY data revealed that there are detrimental effects of too much exposure to adaptive capabilities as well. Sustained, unbridled, or unfocused flexibility can result in employee burnout, revealing a “dark” side to adaptive organizational capabilities. Table 7 outlines evidence of cognitive, emotional, and behavioral burnout amongst staff.

Organizations as Systems: Potential Repercussions	
Repercussions	Quotes
Cognitive burnout	<i>“[We’ve had crises] but you knew that you were going to get over them. You knew that you were going to resume in a different way. But, I think that these last three months or so that staff have undertaken, it’s...it’s a huge mental strain on people.”</i> <i>“I think everyone was overwhelmed because everyone’s listening to the news, and everyone has a different interpretation of the information that they are receiving. That was really stressful for everyone...”</i> <i>“I’d say that we did struggle a bit with boundaries...Unfortunately, we have more work. We have more analysis. We had more things to do, and it’s the same people, and we have to, like, really reconsider our processes and, you know, working from home isn’t the most efficient, you know.”</i>
Emotional burnout	<i>“And, there’s an emotional toll that I don’t think we talked about enough. There’s a lot of change and it is affecting a lot of people’s mental well-being and we talked about how technology kind of makes it so much worse.”</i> <i>“And, you have your families asking you why you go to work.”</i> <i>“We had staff that were fearful for themselves.”</i> <i>“And I remember how very, very stressful and nerve racking those calls were...we were in such a position of responsibility.”</i>
Behavioral burnout	<i>“So, it’s not an efficient way and it causes a lot of unnecessary stress for staff...And, I think ...if we go down this route, it’s not sustainable and it’s going to burn out the staff.”</i> <i>“There was a group of staff probably our leadership and some of our managers who were just completely burning out.”</i>

Table 7. Potential organizational repercussions from dynamic systems management

For this study, burnout was categorized into three, broad, human factors that were most reflective of the level of generality of the data. However, this area of research deserves more attention as there were hints of more interesting layers of burnout such as change fatigue, empathy fatigue, and the “geography of strain,” or the disproportionate impact of crisis or adaptive capabilities on certain parts of the organization, (Kahn, Fisher, Heaphy, Reid, & Rouise, 2018). These layers begin to reveal the ways in which decision structures, relationship

management, and creativity processes need to be clear, structured, and bounded in order to manage a team's energy stores sustainably.

Results from year-over-year employee survey data (Figure 4) supported the findings on burnout as well. As seen in Figure 4 below, employee engagement at RMH-NY has been on an upward trend since 2017, just after the current President & CEO joined the organization. After the coronavirus pandemic in 2020, however, engagement dropped from 63.6% in 2019 to 57.1% in 2020. However, the percentage of disengaged employees did not increase, indicating that the 2019 to 2020 change was a movement of employees from fully engaged to not engaged, a potential reflection of burnout, but not disengagement.

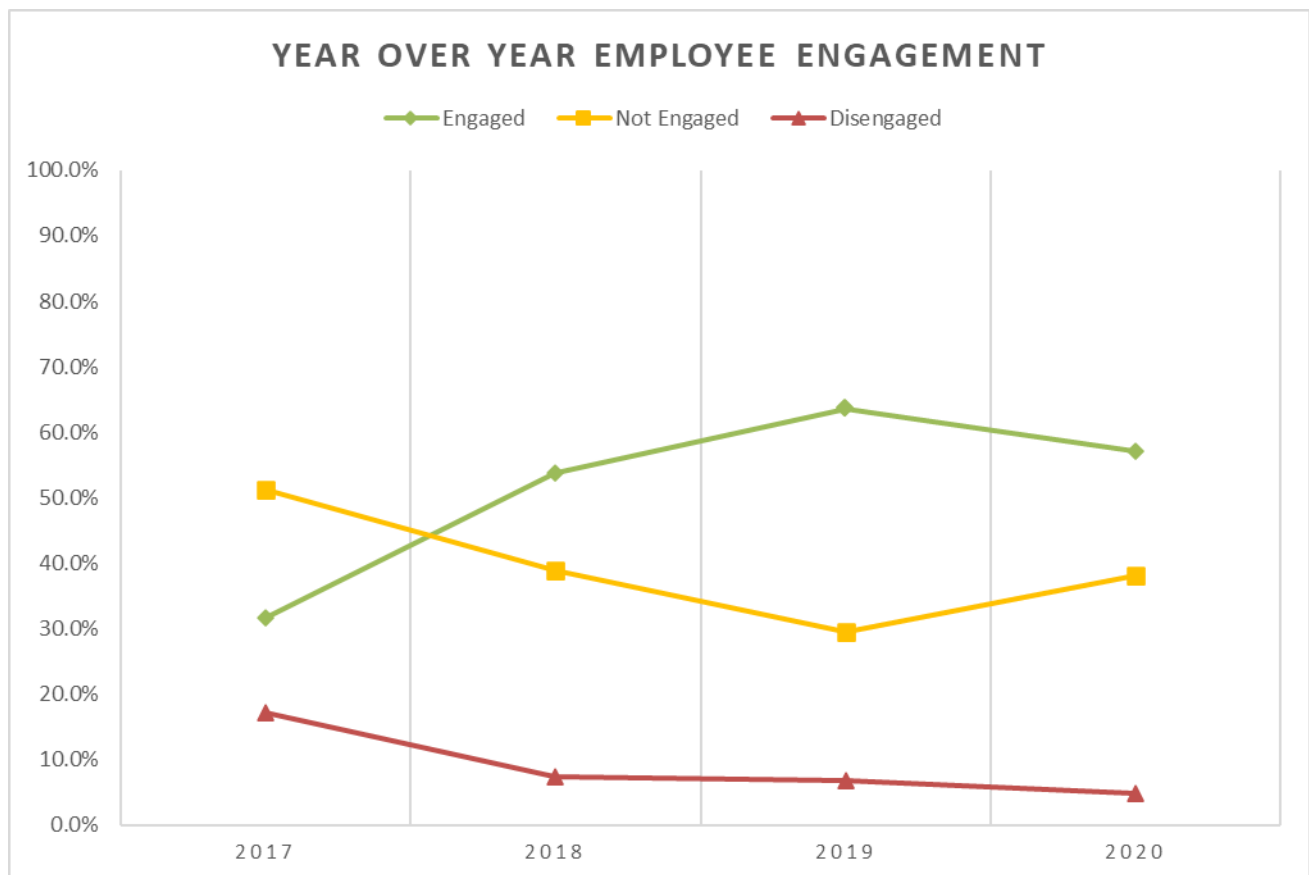


Figure 4. Year-over-year employee engagement data

Crisis as an Event

The *crisis as an event* lens was primarily informed by employee interviews and family surveys. The analysis returned less structured findings than that of other lenses, but insightful themes nonetheless.

First, it was clear that RMH-NY successfully avoided the threat-rigidity trap that is common in organizations during a crisis (Staw, Sandelands, & Dutton, 1981). As was revealed in the *organizations as systems* analysis, RMH-NY exhibited capabilities such as agility, restructuring, and experimentation that demonstrated its countervailing flexibility and adaptability (Barnett & Pratt, 2000). That adaptive behavior was largely engendered by the CEO's deliberate strategy of "dispersion of control." In her words,

"...One of the things that was really important is not only the transparency and the over communication, but the equity and inclusion. Inclusion of a broader team of people who would not necessarily be considered the decision maker, but were now empowered to be part of the decision-making process. And I think the equity had to do with how you're treating people no matter where they are, what category of work they're doing, and where they are in terms of their tenure and seniority. Right?"

As the threat-rigidity literature explains, the common trap of rigidity in the face of adversity is largely a result of organizations as social networks and the anthropomorphic response to threats resulting in 1) a decrease in information processing and 2) contraction of control (Staw, Sandelands, & Dutton, 1981). By intentionally engaging in a strategy of over-communication and "dispersion of control," the President & CEO helped the organization lean away from rigidity toward flexibility and adaptive response.

Second, an interesting theme emerged regarding "crisis as a catalyst." Employee interviews frequently cited challenges that RMH-NY had been aware of or changes that they had

been working on before COVID-19 for which the pandemic provided the necessary pressure to help the organization focus on critical problems, prioritize them, and put innovative solutions into action fast. As one RMH-NY leader explained,

“I think crisis just makes you get where you want to get very quickly. Um...it pushes you to the point where you already thought that you wanted to be. Uh...it makes you leaner. It makes you think much more strategically, as well as tactically because you have to. Um...I don’t think...I think crises just makes you be much more efficient in how you operate...so, I mean, I know this is going to...don’t take it the wrong way, but sometimes I think crises are not bad for organizational structures.”

This theme is tangential to the “crisis as growth” topic in the literature (Fink, Beak, & Taddeo, 1971), but it begins to add color to the nuances of organizational adaptation and change. What is highlighted in the leadership quote above is the concept of organizational growth as both expansion and contraction. Employees frequently acknowledged the power of the crisis to return the organization to its core competencies and encourage them to reassess the value of secondary offerings.

Third, and related to the second theme, is the theme of “existential crisis” (Mitroff, Pearson, & Pauchant, 1992, 244-245) or “frame breaking” (Tushman, Newman, W. & Romanelli, E. 1986). Potentially, one of the most impactful findings in this case study is that the adversity of the COVID-19 pandemic highlighted an organizational identity crisis between RMH-NY as a hospitality organization and RMH-NY as a healthcare organization. Historically, RMH-NY has anchored on hospitality, but as the current President & CEO put it,

“...[The pandemic] definitely affirmed a belief that we are an important part of the healthcare continuum. This is an organization that has always thought about

itself in terms of, really, hospitality. Whereas I came to the organization and see it as a healthcare organization that offers hoteling.”

The President & CEO, who has a background in public health, was not alone in naming this identity crisis. Members of the Board of Directors and one of RMH-NY’s hospital partners also emphasized this tension.

Board Member

“...We are a unique institution on our own. We couldn't trust what people were saying hospitals should do or nursing homes should do. The rules regarding nursing homes didn't really apply to us because we're not a nursing home. You know, at the same time we couldn't really look to hotels or the guidance that was coming out about what to do in the hospitality industry. We were just stuck in our own individual place.”

Hospital Partner

“And this, I think this is...this is not a criticism of what was done, but I think this is exactly the predicament that the Ronald McDonald House finds itself with, where it's somewhere in between a healthcare facility and a hospitality endeavor. And, you know, in a situation of crisis, you know, if you're in hospitality, if you're a hotel, if you're a restaurant, then it is quite simple to say, “Well, you just shut down until you surmount the crisis.” If you're in healthcare, it's quite simple to say, “We can't shut down. We have to do what we can to mitigate risk, but we have to forge ahead.” And how does an entity like Ronald McDonald House function if it is neither of the two?”

Therefore, despite the organization’s ability to leverage flexibility and adaptive capabilities, some of those efforts were thwarted by a misalignment of historical mission and current context in that RMH-NY’s identity as a hospitality organization prevented them from fully preparing for a healthcare crisis of this magnitude. The following quote by a Board Member followed by a quote from one of RMH-NY’s hospital partners, illustrates the history and the contextual “frame-breaking.”

Board Member

“Because, you know, this idea of being at a crossroads and kind of also the obverse of that is...is the other metaphor, neither fish nor fowl, right? And, you know, if we're going to say there's a healthcare component, we have to be very clear about what that is because it's not in the organization's DNA....[W]e started out clearly as a hospitality...as providing a hospitality venue that nobody else was providing and that our hospital base could rely upon for rooms when they needed them for these families. But in our origins, we were very clear that we do not provide health care...We didn't want to take on the liabilities...We weren't prepared for that.”

Hospital Partner

“I just sense that even when we instituted very strict policies, um...you know...the, the natural leaning of the Ronald McDonald House is more towards the hospitality side, meaning customer service, being accommodating, etc. at the expense of a situation where very strict adherence to the healthcare side and recommendations and guidelines was probably what was called for.”

RMH-NY families echoed this tension in the few survey responses that were received. On a five-point Likert scale in which “Strongly disagree” was valued at 1 and “Strongly agree” was valued at 5, the 15 families who responded to the survey rated the statement “*RMH-NY's overall response to COVID-19 was handled well*” as a 4.0 (“Somewhat agree”) and they rated the statement “*RMH-NY cared about our well-being during COVID-19*” as a 4.2 (slightly above “Somewhat agree”). Overall, family ratings of RMH-NY’s COVID-19 response were positive, however some polarity was seen between the management of hospitality aspects of the crisis and healthcare aspects of the crisis. Those families who gave RMH-NY 5s (“Strongly agree”) referred to the organization’s quick and comprehensive management of hospitality dimensions such as common area closures, meal delivery, and virtual children’s program development. Those families who gave RMH-NY 1s (“Strongly disagree”) or 2s (Somewhat disagree) referred

to symptoms of the organization's disconnect with its healthcare identity and spoke of examples such as the House canceling future reservations when their children still needed treatment.

Crisis as a Process

Crisis as a process literature which is grounded in a perspective of temporality, often focuses on two topics: the stages of a crisis and the phases of response. Discussion of both topics was identified in the RMH-NY data and, as mentioned in the literature review, these topics were reflective of and symbiotic with the *crisis as an event* frame.

The stages of the crisis as experienced by RMH-NY, aligned to Turner's six phases of crisis development (Turner, 1976) depicted in Table 8.

Crisis as Process: Turner's Crisis Development Phases (1976)		
Crisis Phases	Definition	Quotes
1. Notionally normal starting point	a) Initial culturally accepted beliefs about the world and its hazards b) Associated precautionary norms set out in laws, codes of practice, mores, and folkways	- <i>"I think all of us in the very beginning did not have any idea of the magnitude and the impact that COVID-19 would have."</i> - <i>"I didn't understand necessarily the seriousness of it."</i>
2. Incubation period	The accumulation of an unnoticed or misunderstood set of events which are at odds with the accepted beliefs about hazards and the norms for their avoidance.	- <i>"...I had a friend from Japan who called and asked me for hand sanitizer, and I couldn't understand. I'm like, 'What do you mean you need hand sanitizer?'"</i> - <i>"And, in the very beginning of the crisis, which was probably February at some point, I recall we had the Chief...um...Head of Infectious Control from MSK come and talk about it with us and we had all of the leadership and department heads in the conference room. And, it started to feel like at that point, wow, this is something that is a serious issue, that we have to immediately begin thinking about but at that point no one had yet raised the alarm that this was a pandemic."</i> - <i>"...but, I would say to you that it was a similar feeling to watching ...um...um...particularly how the New York Times was covering the 2008 collapse of the economy, and it just kind of sounded like things were building and building and building and sending messages to us. You should get prepared to do</i>
3. Precipitating event	Forces itself to the attention and transforms general preceptions of Stage 2.	- <i>"And then, we were sort of slammed with our first case."</i> - <i>"So, obviously, it was crazy and everything kind of came to a halt."</i> - <i>"And, then we were kind of working hand in hand, trying to learn like everybody else. And then when we. When the first [coronavirus positive case happened]...reactive mode."</i> - <i>"Because once we had a confirmed case in the House that really was an exponential impact that is really when ...HR became like the central hub of...um...execution and planning and communication...umm...almost immediately."</i>
4. Onset	The immediate consequences of the collapse of cultural precautions become apparent.	- <i>"And, I'm summarizing it and probably condensing it, but the gist of what I'm saying is we had to say to ourselves, what are the implications if we don't have volunteers coming anymore? How are we going to feed people?"</i> - <i>"...and, then it was, you know, are we closing our communal spaces, taking all of the precautions around cleaning every two hours, then, you know, wearing masks before we're told to wear masks? Those kinds of things."</i> - <i>"...we were a high-touch environment and now we're a no-touch environment."</i>
5. Rescue and salvage - first stage adjustment	The immediate postcollapse situation is recognized in ad hoc adjustments which permit the work of rescue and salvage to be started.	- <i>"And, if we only have a few of you coming to work, then amongst the few of you coming to work, we need shifts that give us 24 hour coverage because we're 24/7 operation and across a series of tasks from cleaning...to food prep and delivery and clean up, to garbage disposal, to...transportation to and from a hospital...that's the realm of what we're asking everyone who comes to work to do."</i> - <i>"If you did nothing else, making sure that those families have what they needed to shelter in place, right? To get their treatments, is they need to be fed three times a day because we're only limiting, you know, how much interaction is going on in the kitchen...initially, we have them coming downstairs to get their food, but then eventually it moved to 'we're going to deliver your food to your door.'"</i> - <i>"...had to shift very quickly because COVID hit and then all of a sudden transportation was elevated from, you know, how many people can we fit in a van and what should our routes be to 'we've got new requirements here.'"</i>
6. Full cultural readjustment	An inquiry or assessment is carried out, and beliefs and precautionary norms are adjusted to fit the newly gained understanding of the world.	- <i>"This is an organization that has always thought about itself in terms of, really, hospitality...whereas, I came to the organization and see it as a healthcare organization that offers hoteling."</i> - <i>"...really looking at skills we have, skills we'll need, roles we have, roles we'll need. You know, we're questioning role transitions...to train or not...where we can pivot people."</i> - <i>"Now, we need to think about 'what is the future?'"</i>

Table 8. Crisis development phases and illustrative quotes

It should be noted that during the Incubation Phase, threat cues and the interpretation of impact were highly variable, but most RMH-NY employees were aligned on the fact that the Precipitating Event was RMH-NY's first COVID-positive patient and that was the imminent threat that triggered a cohesive crisis response. It should also be noted that, as of the time of writing, the crisis is still developing. RMH-NY has endured the Rescue and Salvage Phase, but is

still in the process of the Full Cultural Adjustment Phase. This case study and the process therein is part of the double-loop learning (Argyris, 1977; Argyris and Schön, 1978; Argyris and Schön, 1996) that will inform RMH-NY's new norms and understanding of the world.

The phases of crisis management or the organizational response to the stages of crisis development, are commonly accepted as follows: 1) signal detection, 2) preparation/prevention (i.e., planning), 3) containment/damage control, 4) business recovery, 5) learning (James & Wooten, 2010; Pearson & Mitroff, 1993; Schneider, 1992; Waller, Lei, & Pratten, 2014). However, RMH-NY leaders and employees discussed the response phases differently. Some of the characteristics were similar in that there was discussion of signal detection, early preparation before the precipitating event, and more recently, conversations about learning, but RMH-NY's crisis management was much more decentralized, non-linear in nature, more simultaneous than sequential, and were conducted in frequent, iterative cycles.

The decentralization of RMH-NY's crisis management approach appears to be a byproduct of the President & CEO's intentional "dispersion of control" in order to manage the breadth and complexity of the impact under time pressure. This is not a negative outcome, but an interesting finding as it relates to the case study's unit of analysis: the organization. The hypothesis was that crisis management activities would be observable at the organization level, but the effective use of "dispersion of control" by the President & CEO pushed crisis management out to the department level, where leaders leveraged their own crisis management processes and rhythms to suit the needs of their department. Therefore, the scope of this case study revealed general themes of RMH-NY's crisis response, but complete details about the phases of response were not revealed because they occurred at a lower unit of analysis that was not the focus of the research design.

Integration of Crisis as an Event and Crisis as a Process

Employee interview data and the employee survey proved to be the most relevant data in the *integration of crisis as an event and crisis as a process* analysis. RMH-NY interviews revealed that RMH-NY's assessment of COVID-19 aligned to the Event System Theory's (EST) three components (strength, space, and time) (Morgeson et al., 2015). Definitions of the crisis assessment characteristics and supporting evidence are outlined in Table 9.

Integration of Crisis as Event and Crisis as Response: Crisis Characteristics + Organizational Responses		
Crisis Characteristics	Definition	Quotes
Strength	Strength is comprised of 1a) <i>novelty</i> , the extent to which an event is different or varies from current and past behaviors, features, and events, thus representing a new or unexpected phenomenon (Lee & Mitchell, 1994; Morgeson, 2005), 1b) <i>disruption</i> , or the discontinuity in the environment (Hoffman & Ocasio, 2001), and 1c) <i>criticality</i> , or the "degree to which an event is important, essential, or a priority" to an entity (Morgeson & DeRue, 2006, p. 273).	"...as we were hearing the news, we were starting to think about, well, you know, here we have some of the most vulnerable kids in the world. We need to exercise every precaution....not only that, we have international families and we were looking at international news where COVID was hitting China hard and then, you know, Italy and other places. So, we were concerned, right?" "...now, in 2020 where not only were you unsure about the economy being able to come back... but also that normal life may not actually be able to return as well...and...the added hit now of civil unrest...just compounds the problem..."
Space	Space is comprised of 2a) <i>spatial direction</i> , or the direction an event's effect travels within or across an organization 2b) <i>event origin</i> , or the hierarchical level at which an event occurs, and 2c) <i>spatial dispersion</i> , or the extent to which effects dispersed throughout the organizational hierarchy holding time constant (Abbott, 1984).	"Um, but yeah, because we were really focused on being equitable, not having burnout of, of staff in frontline positions that were at the most risk and ensuring they felt supported." "...there is a divide, I would say between white collar staff and blue collar staff, meaning that most of our staff that are entry level, who have to physically come into the building to execute their job...there's always been that line and it got amplified...So you could argue some of them don't feel the same fears or jeopardy that others..do." "Some roles were impacted more than others...I would say for a third of our staff, the balance became they really didn't have much to do. And then there was another third of the staff where it was exponentially more to do, um, for weeks..."
Time	Time is comprised of 3a) <i>event duration</i> , or how long an event lasts, 3b) <i>event timing</i> , or the timing of the event as it relates to an organization's life cycle or development, and 3c) <i>event strength change</i> , or the extent to which the event becomes more or less novel, disruptive, and critical over time.	"[CEO] always reminds us that there is no post-COVID, you know? And that really showcases how long this is going to be." "I think we knew throughout the whole time that this wasn't just going to be a one-month thing and then it be over and then it's back to business as normal. I think we kind of had the sense that, like, even beyond the sheltering in place, there were still going to be some huge changes that would carry on past COVID-19 that we would still implement just as a precaution...Just especially with the nature of our population, you know, immunocompromised families and making sure that we're also prepared if something were to happen down the line and making sure that we have systems in place to be able to support it throughout even past COVID."

Table 9. Characteristics of integration theory of crisis as event and crisis as response

More interesting, perhaps, than the alignment with Morgeson et al.'s work were the response themes that resulted from RMH-NY's assessment of strength, space, and time. The compounding factors of a three-front crisis (health, economic, and sociopolitical) in addition to the complexity of RMH-NY's business model at the intersection of two risk-polarized industries (healthcare and hospitality), meant that they assessed the COVID-19 pandemic as having high depth of impact (strength), high breadth of impact (space), and long impact duration (time). As a result, they exhibited a dramatic increase of speed, decrease of scope, and increase of cadence in

their response, as outlined in Table 10. This lends insight into the expansion and contraction cycles of crisis management over time.

Integration of Crisis as Event and Crisis as Response: Crisis Characteristics + Organizational Responses		
Organizational Responses	Definition	Quotes
Increase Speed	A sense of urgency and drive for efficiency as a result of risk assessments and the determination of a high magnitude of impact.	- "We were on-call 24/7 the first few weeks." - "We had a sense of urgency about everything we did." - "So I think those were very crucial deadlines and the crisis that was in place, we were able to be a little bit more effective sometimes in actually putting things into action where maybe if it wasn't a crisis, it would have taken us a little bit longer to execute." - "It has not been traditionally fast. COVID has made us an agile organization that needs to move quickly." - "Like, I guess one of the first things that changed is everybody...wants - because of the uncertainty - everybody wants good numbers quicker, better, faster." - "[Due to the pandemic] a lot of things we would have had to spend a lot of time on, it was able to be expedited and that includes communication with hospital partners and being able to share information more freely...So, that's been nice."
Decrease Scope	Reducing the scope of priorities and narrowing focus to the essentials in order to create capacity for disruption across the organization and ensure for business continuity.	- "So, I think it was kind of like the essentials like meals, transportation, and financial assistance because people were losing their jobs. And, I think they were just like the bare bones essentials that we were trying to find resources for. Sometimes, maybe if it's not a crisis, you can maybe focus on, you know, raising money for a lot of different things, but I think in the middle of a crisis, you're just focusing on making sure the essentials are met." - "We made the conscious effort to reduce staff at the house or to resume anybody at the house. No vendors, no volunteers, nothing." - "I think staff have been relatively okay and the fears have been less than they could have, simply because they knew they didn't have to worry about their paycheck...that first Maslow hierarchy..." - "So, that's another example of figuring out how we can address immediate needs leveraging partner relationships."
Increase Cadence	An increase in the tempo or rhythm of decision-making and action, sometimes requiring a new level of adaptation or coordination.	- "So that at 8:15 and 4:30 every day we had a meeting and that went on for weeks...the other thing we did was we did once a week, no, I'm sorry, twice a week town hall for our staff...we had four Board meetings in two months." - "As fast as the information was coming in, we were responding to it."

Table 10. Characteristics of integration theory of crisis as event and crisis as response as exhibited by RMHNY

Crisis Leadership

An interview with the President & CEO as well as employee interviews and archival data demonstrating leadership communication informed the analysis of crisis leadership. The data revealed that the President & CEO employed a leadership style known as authentic leadership, which is a style built on self-awareness that leverages the leader's authenticity to build honest, trusting relationships with their organization and its partners (Northouse, 2019). Authentic leadership was first introduced by Bill George in 2003 (George, 2003; George & Sims, 2007; George, 2010) and consists of five dimensions: purpose, values, relationships, self-discipline,

and heart. Data representing how the President & CEO exhibited these dimensions is included in Table 11 below.

Crisis Leadership: Authentic Leadership (George, 2003)		
Leadership Characteristics	Definition	Quotes
Purpose	Leaders know what they are about and where they are going. They are inspired and intrinsically motivated about their goals. They are passionate individuals who have a deep-seated interest in what they are doing and truly care about their work. (Northouse, 2019, p. 199)	-<i>"So, I think what's important is that, you know, mission does play a big role with Ronald McDonald House and commitment to the mission is important. So, there's a huge dedication to the mission..."</i> -<i>"So, I think core mission is where I went. What is core to the mission? What do we have to deliver on?"</i> -<i>"But, we were all focusing on what is core to the mission."</i> -<i>"If the core mission is to serve families, then it doesn't matter what you do. It doesn't matter what your team does, right? Because, what I need you to do is make sure that these families get served."</i>
Values	Authentic leaders understand their own values and behave toward others based on those values. Stated another way, authentic leaders know their 'True North.' They have a clear idea of who they are, where they are going, and what the right thing is to do. When tested in difficult situations, authentic leaders do not compromise their values, but rather use those situations to strengthen their values. (Northouse, 2019, p. 200)	-<i>"So, we wanted [the families] to know that we're taking every precaution to protect them and the we would be transparent as it related to letting them know as much as we could."</i> -<i>"I made a decision that whatever we would provide for our senior staff, we would provide for our on the ground, front-facing, hourly employees. So, if we were coming to work in a car service or Lyft, they were too, right? Because it's all about how do we protect them, protect us, protect the families in the House?"</i>
Relationships	A third characteristic of authentic leadership is strong relationships. Authentic leaders have the capacity to open themselves up and establish a connection with others. They are willing to share their own story with others and listen to others' stories. Through mutual disclosure, leaders and followers develop a sense of trust and closeness. (Northouse, 2019, p. 200-201)	-<i>"And, I think the equity had to do with how you're treating people no matter where they are, what category of work they're doing, and where they are in terms of tenure and seniority."</i> -<i>"When [CEO] arrived, she found, um, a staff that was heavily siloed...and while on paper successful, there was not necessarily a high degree of trust that should have existed between all department leaders and or staff members...she said, 'Ladies and gentlemen, we are now going to start to work together, and here's how we're doing it.'...so we already had some working relationships with one another where we knew we could really rely upon one another...I don't know if we could be as successful as we are without having gone through, um, those processes ahead of time."</i>
Self-Discipline	Self-discipline is another dimension of authentic leadership and is the quality that helps leaders to reach their goals. Self-discipline gives leaders focus and determination. When leaders establish objectives and standards of excellence, self-discipline helps them to reach these goals and keep everyone accountable. Furthermore, self-discipline gives authentic leaders the energy to carry out their work in accordance with their values. (Northouse, 2019, p. 201)	-<i>"So that at 8:15 and 4:30 every day we had a meeting and that went on for weeks...the other thing we did was we did once a week, no, I'm sorry, twice a week town hall for our staff...we had four Board meetings in two months."</i> -<i>"And, if we only have a few of you coming to work, then amongst the few of you coming to work, we need shifts that give us 24 hour coverage because we're 24/7 operation and across a series of tasks from cleaning...to food prep and delivery and clean up, to garbage disposal, to...transportation to and from a hospital...that's the realm of what we're asking everyone who comes to work to do."</i> -<i>"...the night we had the confirmed case, it was [CEO], [Director of Operations],</i>
Heart	Last, George identifies compassion and heart as important aspects of authentic leadership. Compassion refers to being sensitive to the plight of others, opening one's self to others, and being willing to help them. George argued that as leaders develop compassion by getting to know others' life stories, doing community service projects, being involved with other racial or ethnic groups, or traveling to developing countries. These activities increase the leader's sensitivity to other cultures, backgrounds, and living situations. (Northouse, 2019, p. 201)	-<i>"From a personal perspective, you're dealing with infectious illness and infectious disease and all of us can remember...I remember as a child having pneumonia, or scarlet fever, something that was infectious. And I was isolated in a room and I have five brothers and sisters and we lived in an apartment. I was isolated in the room. Nobody could come in except my mother who wore her, you know, whatever over her face and her gloves and she brought me my food, okay? But I was there. And, you know...when someone had an infectious illness, you didn't throw them out of the house, right?"</i>

Table 11. Authentic leadership characteristics and examples

Authentic leadership is relatively new to the leadership literature and therefore, it is still in its formative phase. It is related to the more popular concept of transformational leadership in that both styles are multi-dimensional and are part of the “New Leadership” paradigm (Bryman, 1992), which gives more attention to the charismatic and affective elements of leadership (Northouse, 2019). It is that shared categorization as charismatic leadership styles that gives both

authentic and transformational leadership the potential to be more effective during times of uncertainty (Waldman et al, 2001).

In this case study, authentic leadership exhibited itself more prominently because the scope of the research design focused on *crisis as an event* and *crisis as a process* frames, perspectives that are more focused on the immediate aftermath of a crisis. It is worth noting, however, that a longitudinal study may well reveal that the authentic leadership style exhibited by the President & CEO during this crisis was a situational stabilizing response style nested within a broader transformational leadership style. Employees and Board Members alike spoke about the President & CEO's broader drive to evolve the organization and the potential for this crisis to serve as momentum for that transformation in the future, however, the targeted scope of this work did not support that exploration.

The alignment of authentic leadership to the *crisis as event* and *crisis as process* frames is further supported in that authentic leadership prioritizes authenticity in an effort to create positive psychological environments (Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008). These environments then promote psychological safety and positive emotions like trust, curiosity, confidence, and inspiration, which encourage open-mindedness, resilience, motivation, and persistence (Delizona, 2017). In other words, authentic leadership focuses less on the outcome in a chaotic environment and more on the process to support adaptability and learning, which are critical capabilities in high-volatility contexts (Edmondson, 1999).

The archival data also revealed insight into how the President & CEO communicated and framed the crisis. In line with her authentic leadership style, she led with values and consistently repeated her crisis priorities: 1) safety, 2) transparency and 3) business continuity. Additionally, she discussed “the outbreak” as an external threat and often used language such as “we need to

help the community during this difficult time,” “you are playing an integral part in the lives of families who are battling more than just the fear of COVID-19,” and frequently referred to New York City as “our city” to remind staff of the mission, the organization’s role and responsibility to the community, and to engender cohesion and coordination in the response. These language choices and communication efforts were subtle but powerful tools that built RMH-NY’s “disaster frame” (Rao & Greve, 2018): an orientation to an external threat and the creation of a shared reality that produced synchronization instead of fragmentation (Williams et al, 2018).

Discussion & Conclusion

At the onset of the critical first phase of the COVID-19 outbreak in 2020, RMH-NY was managing the temporary housing of more than 70 families with immunocompromised children who were in New York City receiving cancer treatment. The experience of this organization provides a unique perspective into the magnitude of the crisis and the complexity of providing hospitality services to healthcare patients during a health crisis. RMH-NY succeeded in maintaining business continuity and avoiding an outbreak at the House, success metrics by any account; however, the pressure test of a crisis revealed important lessons that will impact who they are as an organization and how they deliver health and hospitality services in a post-pandemic world.

The first and most profound lesson from this research speaks to the root cause of RMH-NY’s challenges navigating this crisis: organization identity. As the CEO and Board Members acknowledged, this pandemic served as a “frame breaker” (Tushman, Newman, & Romanelli, 1986) and highlighted RMH-NY’s existential crisis of whether it is a provider of healthcare services, a provider of hospitality services, or both. From its inception and through its licensing agreement with Ronald McDonald House Charities in 1974, RMH-NY has built an organization

and a culture around “compassionate hospitality.” However, as the healthcare industry has developed a better understanding of the holistic patient journey, the interconnection of “health experience” and “home experience,” and a deeper appreciation for the role of social determinants (e.g., housing, transportation, access to food) in health, organizations like RMH-NY are finding themselves at the forefront of a new field, perhaps even a new industry. As one Board Member explained,

“We talk very, almost casually about being at the intersection of hospitality and healthcare. It dawned on me, you know, the question is what happens when that intersection isn't visible from anybody else's map? Or whether that interception doesn't exist once tested? And because our questions were...many of the more intelligent questions were focusing around where do we get our guidance from? Right? And it turns out that there's nobody upstairs. Right? I mean, if you're a hotel you have rules and regulations. You have a trade association. You have your...your competitors. You have your alliances, you know? There's going to be...there's going to be some group thing of affiliated minds. If you're a hospital you have all that and you have your regulators. We have none of that, you know, and because we are unique.”

Therefore, the areas in which RMH-NY excelled during the pandemic were those areas of service operations that have been core to their hospitality identity for over 40 years. The areas in which they struggled, however, were those areas of healthcare operations that had never been part of their identity and for which an infrastructure was never built. That gap is largely a result of the fact that this concept of an intersection between hospitality and healthcare, where both human and health service operations need to be managed simultaneously was not - and still is not - thoroughly understood.

To be clear, RMH-NY is not the first organization to grapple with the intersection of healthcare and hospitality, but their unique, balanced split between the two makes the tensions of operating in this space readily apparent and ripe for study (see Figure 5). In the midst of their

crisis management efforts, for instance, there was a clear tension between the risk tolerance levels of hospitality and healthcare. Hospitality has traditionally been a risk averse industry and, as “non-essential businesses,” many hotels and restaurants simply shut down during the pandemic. Healthcare, on the other hand, is more risk tolerant by necessity and, as “essential businesses,” hospitals didn’t consider shutting down. In the case of RMH-NY, this tension was revealed when RMH-NY’s peer organizations suggested they close the House in line with the hospitality industry approach but RMH-NY’s hospital partners encouraged them to stay open to provide protection and an essential function for their patients. Ultimately, the President & CEO appealed to the New York City Department of Health (NYCDOH) that identified RMH-NY as an essential function and recommended that they remain open. That appeal resolved the issue, but not without angst. One hospital partner explained the frustration of managing those two polarizing risk profiles during a crisis.

“The other dynamic that came into play was an over...that risk aversion became a real impediment to doing the right thing... [W]hen dealing with a crisis, I think there has to be...there has to be some loosening of the fear of liabilities...and could there be someone who would sue us down the road because they were exposed to COVID? And that's just a ridiculous concern when we're in the middle of a crisis that, you know...where walking on the street was, you know, the far greater risk.”

Another tension that RMH-NY felt was the shift from a hedonic (pleasure-seeking) consumption orientation to a utilitarian (function-seeking) consumption orientation (Holbrook & Hirschman, 1982). Generally, the hospitality industry orients around hedonic experience dimensions, or those that are more sensory and affective in nature, while healthcare orients around utilitarian experience dimensions, which are more practical and cerebral (Mano & Oliver, 1993). RMH-NY, as an organization that has historically identified with hospitality, has a culture that is anchored around hedonic mission statements like “helping families forget why they are

here” or “giving families experiences they couldn’t have otherwise.” That focus on hedonic experience dimensions has driven the development of RMH-NY’s service offerings and programming. During the pandemic, the existential threat and the reduction of resources forced the organization to reconsider which experience dimensions were really core to the organization and to its families as health consumers. As one employee articulated,

“So, I think, you know, for me it...it really is trying to, you know, potentially put pressure on...to say, do we really need to do this program? Can we cut back here and still generally say we're accomplishing our mission? Because I found that I was crossing over the boundaries between wanting to be fiscally responsible...and yet still being able to say we provide a vast number of programs and, and that's been the challenge here. We provide so many programs... But do we need to? Do we need to say that? Do we need to continue that now? Will it make us any less of an organization?”

The final tension that RMH-NY felt was that of disparate levels of industry complexity. Hospitality is complex in its own right, but the processes and structures are more straightforward and transparent. Healthcare, on the other hand, presents unending layers of complexity that hinder entrance into the space and successful operation within it. Employee interviews acknowledged that in trying to lean into healthcare and serve their patient population, RMH-NY ran into challenges with information sharing due to Health Insurance Portability and Accountability Act (HIPAA) privacy provisions, experienced hospital partnership breakdowns due to lack of proper contracting, and could not access financial support from health insurers because they are not recognized as a healthcare entity. One Board Member described the challenges this way:

“Friday the 13th of March, the first index case became positive. And so that was the pivot point. And, that was the point that basically, we were literally, sort of, on the phone...almost two, three hours every single day...where the mother could stay and not stay, what to do with their stuff, and what to tell the rest of the House, etc. It was just chaos...and not just for the rest of the family, but now,

massive panic within the staff as well in terms of exposures. And then, we got to that point where this uncovered, you know, another issue that was not thought out ahead of time, which is that because...because the House operates in a one by one arrangement with each of the partner hospitals, for the purposes of confidentiality, etc. we...they couldn't even specifically do contact tracing, identify the patient, even tell me officially who the patient was, have our infection control help with the situation because there was no reciprocity in terms of being able to extend patient information, confidential patient information to me or to anybody else external.”

This finding, which reflects the *crisis as an event* literature on “existential crisis” (Mitroff, Pearson, & Pauchant, 1992, 244-245) or “frame breaking” (Tushman, Newman, W. & Romanelli, E. 1986), could have profound implications on RMH-NY’s business and operating model. As Figure 5 depicts, in the process of clarifying its identity and determining where on the hospitality/healthcare continuum it falls, RMH-NY will also need to grapple with its risk tolerance, consumer orientation, and appetite for complexity. Those determinations will have cascading effects throughout the organization, raising questions that are outlined in Appendix A.



Figure 5. Hospitality/healthcare tensions

The second lesson that arose out of this research was the need to identify and sharpen organizational capabilities that support the successful navigation of a world that is increasingly

volatile, uncertain, complex, and ambiguous (Whiteman, 1998). As Benner and Tushman (2015) articulated:

“The paradoxical challenges facing organizations have become more numerous and strategic (Besharov & Smith, 2014; Smith & Lewis, 2011). Beyond the innovation challenges of exploration and exploitation, organizations are now challenged to be local and global (e.g., Marquis & Battiliana, 2009), doing well and doing good (e.g., Battiliana & Dorado, 2010), artistic or scientific and profitable (e.g., Glynn, 2000), high commitment and high performance (e.g., Beer & Eisenstadt, 2009), and profitable and sustainable (e.g., Eccles, Ioannou, & Serafeim, 2014; Henderson, Gulati, & Tushman, 2015; Jay, 2013). These contradictions are more prevalent, persistent, and consequential. Further, these contradictions can be sustained and managed, but not resolved (Smith, 2014). (Benner & Tushman, 2015, p. 504)

One reality of increasingly complex environments is that no one organization will be able to fulfill all competing demands alone. Strategic partnerships will become increasingly important and the ability to maintain strong relationships with those partners will build the organization’s resilience. Currently, RMH-NY has developed strong partnerships with service providers such as Lyft, God’s Love We Deliver, and Cancer Care. Moving forward, it will need to expand or strengthen those efforts with healthcare providers. As the President & CEO observed, “...what [the pandemic] said though was that our relationships [with hospitals] are weak. We are, and you’ve heard this before, we are a referral source, not a partner.” Regardless of where RMH-NY lands on the hospitality/healthcare identity spectrum, they can no longer deny that they are part of the healthcare continuum in some capacity. Therefore, a stronger partnership with the healthcare industry will be critical to their goal of serving and protecting pediatric cancer patients and their families.

Another reality of increasingly complex environments is the need for organizational resilience. The finding that employee burnout was a significant side-effect of the crisis is an

indication that the organization needs to strengthen its ability to maintain “positive adjustment under challenging conditions such that the organization emerges from those conditions strengthened and more resourceful” (Vogus & Sutcliffe, 2007). RMH-NY proved resilient in terms of its financial reserves, its operating metrics, and its flexibility, however, the cognitive, emotional, and behavioral toll on its staff persisted. As Pearson and Clair (1998) acknowledged, human beings have limited capacity for cognition, emotion, and behavior and therefore overload during times of complexity, tension, and crisis are common. However, organization-based solutions and boundary-shaping can mitigate these challenges. One way to achieve that is through the development of crisis management plans, crisis management teams, and high-reliability or reliability-seeking organizing (Williams et al, 2017; Bigley & Roberts, 2001; Vogus & Welbourne, 2003). These frameworks and structures are common in high-hazard environments such as healthcare and variations should become more common across all industries as the world becomes increasingly complex and volatile.

The final reality of our increasingly complex world is the need to manage competing or “layered” crises (Roux-Dufort, 2009, Roux-Dufort, 2016). The COVID-19 pandemic was not a health crisis alone, but a health crisis compounded by the resulting economic recession and layered on top of sociopolitical upheaval resulting from the racially-charged murder of George Floyd and tensions surrounding the 2020 presidential election. RMH-NY was not only managing a pandemic, but it was simultaneously and conscientiously juggling the health, financial, and racial impacts of crisis on its families and staff. As the CEO explained,

“So, I think what's important is that, you know, mission is...does play a big role with Ronald McDonald House and commitment to the mission is important. So...there's a huge dedication to the mission, whether it be staff, or volunteers, or the board, etc. But those same things that we see in society, we see also in the internal.”

Ultimately, this reality calls attention to the importance of leadership. RMH-NY is an organization steeped in a charitable mission and the authentic leadership style of the President & CEO ensured that the organization held to its values. One of the criticisms of authentic leadership is that it is not outcomes oriented and is therefore more focused on means than ends. This case study demonstrates that in an increasingly complex world, that style of leadership may become increasingly more valuable as we discover that the target is always moving and agility is paramount, but integrity will always prevail.

As of the time of writing, the COVID-19 pandemic rages on. It has touched every individual and organization around the world and it has caused chaos and heartbreak in the process. However, as this study demonstrates, there is opportunity in disruption. Organizations have a unique moment to reflect on their identity, assess their strengths and weaknesses, and either leverage them or learn from them to build a more resilient and innovative organization moving forward. Within health services industries specifically, organizations will need to confront the current lack of governance and infrastructure required to support our expanding definition of health and the operational plans needed to execute on it. That will include grappling with organizational identities, reassessing operational capabilities, and expanding strategic partnerships and industry networks to effectively execute on new models of care. Future research abounds in this largely uncharted territory for organizational behavior research and the goal of supporting innovative care delivery in the U.S. has never been a more worthy one.

Appendix

Organization Identity & Redesign Questions	
Organization Component	Questions
STRATEGIC LEVEL	
Mission	Are we a healthcare provider or a hospitality provider?
Customer	Who is our primary customer - the patient or the family? Are they utilitarian (function-seeking) or hedonic (pleasure-seeking) consumers (Hirschman & Holbrook, 1982)? How does that change the service offerings we should provide?
Service Concept	How do we want to respond to the changing healthcare/hospitality consumer environment to deliver our service offerings? Do we need to establish more stable funding sources to achieve that? Do we need to redesign the organization structure to achieve that? What partners do we need to engage with in order to achieve that? What composition of Board Member experience and skill sets will support that? How do we need to engage RMHC in these transitions?
Culture	How do we need to prioritize our values differently in order to deliver on our mission? Does our risk tolerance need to change to meet the new mission?
Leadership	What leadership style will get us to this next phase of growth?
OPERATIONS LEVEL	
Product	What capabilities do we need to invest in/divest in order realize our mission (e.g. digital technology, clinical capabilities, HIPAA compliance)?
Process	What processes do we need to keep or change? Do we need process improvement capabilities to codify our crisis learnings? Do we need change management capabilities to ensure implementation and adoption of our path forward?
People	What staffing model do we need to support our mission? Does a volunteer-dominate model make sense and in what capacity? What new skills do we need to achieve our mission? What training do we need to transition staff into new roles (e.g. technology training)?
Technology	What are our deliberate decision rules around navigating the high-tech/high-touch service deliver trade-off? What is the right balance of in-person vs. remote working?
EVALUATION LEVEL	
Metrics	What metrics align to our new mission and service concept? What does data mean to the organization in this new reality?
Measures	What new processes do we need for governance and quality control?

Appendix A. Question to support organization identity queries and redesign efforts.

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Conclusion

This research applied a new perspective, one of service systems theory, to the age-old problem of low-value healthcare delivery in the United States. It focused on operations and human behavior interventions at the point of care and anchored on the health systems theory of Relationship-Centered Care (RCC), or the theoretical understanding that reciprocal relationships and human interdependencies are central to effective care delivery. Ultimately, it explored health environments as unique expressions of service systems that have the potential to deliver high value care if properly understood and managed as interconnected networks of mutual exchange.

The research strategy leveraged a three-study approach allowing for the exploration of three distinct aspects of the healthcare service system: the health consumer, the health organization, and the interaction between the health consumer and the health organization. The culmination of this research was the finding that our current constructs of health, health consumption, and the management of health consumption experiences are incomplete and not operational. Historically, we have focused on healthcare as a product, an orientation that has led to incredible scientific and medical advances. However, by neglecting the focus on healthcare as a service, we have failed to understand the patient as a consumer and how to design the engaging care delivery models that are required to drive value in co-produced environments. More specifically, this research revealed gaps including a poor understanding of patients as reluctant health consumers and its implications for segmentation and consumer behavior, a poor understanding of time and context as experience dimensions that drive engagement, and a lack of understanding of how organizational identities and operating model alignment need to evolve to support health service systems operationally.

The application of service systems thinking to healthcare is still a nascent field. This research was intended to be exploratory and generative because there is much that we still don't know about healthcare as a service system. The goal of this work was to take a step toward understanding health consumers, health organizations, and their interaction with one another but more work remains in studying health providers, the role of the community, and their interactions with the other elements of the service system, if we are to grasp the function of the whole. Additionally, there are critical gaps in health service system metrics and value models needed to validate and evolve this thinking. Service systems thinking such as the academic research on the Service Profit Chain or industry frameworks such as the Malcolm Baldrige Award capture elements of systems thinking, but they have yet to be expanded and evolved for our current understanding of healthcare nor are they widely adopted or linked to critical health value metrics. That said, the need for this innovative thinking in healthcare has never been greater and the transdisciplinary research required to study it has never been more supported. Hopefully, this work helps establish a roadmap for future research and industry innovation that leads to high-value healthcare delivery by embracing service systems, prioritizing the uniquely human elements of consuming health, and adopting the notion that the whole is more than the sum of its parts.