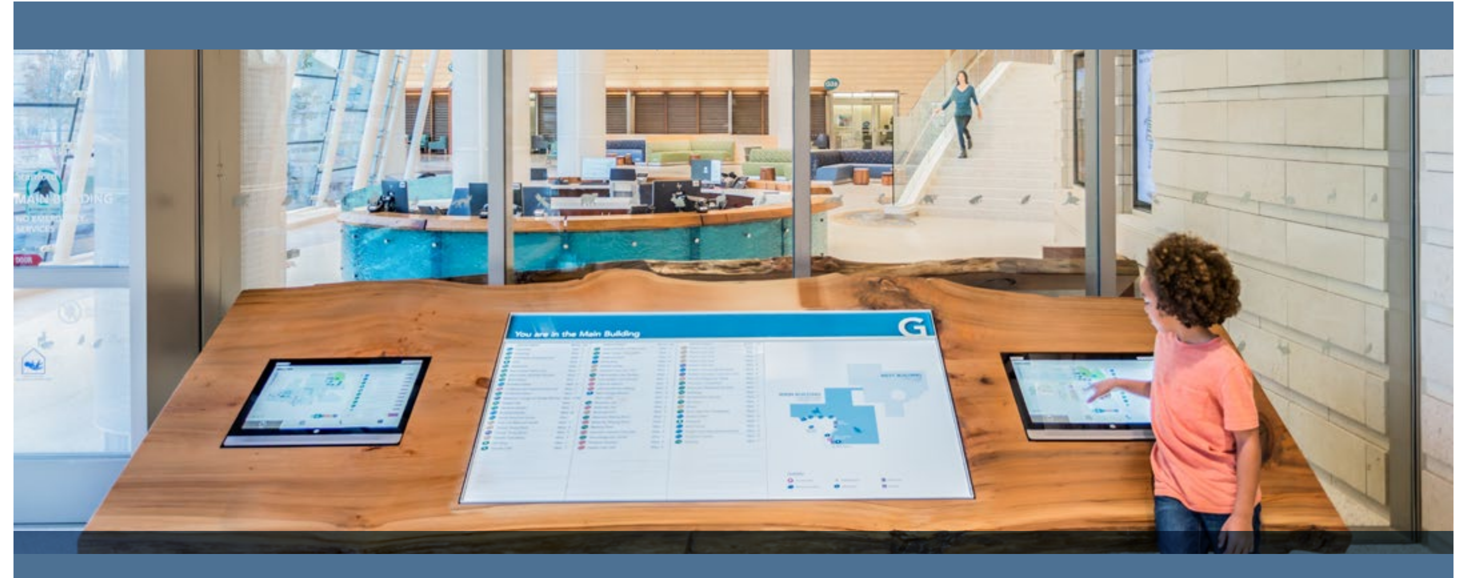

Photo courtesy of Emily Hagopian

Navigating Shifting Terrain in Pediatric Care

by Supina Mapon, Kevin Matuszewski

We will recover from the pandemic. Discussions around the pediatric patient's and family's needs will drive the future of pediatric care and influence real estate, design, and construction decisions to support this evolution. With this in mind, we look at a new strategic framework focused on changing definitions of value to enable pediatric providers and their facilities to emerge stronger.

A Re-Introduction to Value

More than ever, the future of pediatric care is full of ambiguity, evolving boundaries, and new challenges. This report is not about the novel coronavirus but about major undercurrents underway, emerging repercussions, and, most importantly, what pediatric providers can do to calibrate, adapt, and thrive. Historically, large shocks in the health system have caused providers to question how they define value. The question is two-fold for pediatric providers: one, how is value defined differently for pediatric health systems, and two, how has that definition of value changed with the knowledge gleaned from pandemic experiences?

Value definitions typically include aspects of perceived benefit for the patient, but what the patient valued became unclear during the COVID-19 pandemic. Parents across the country reported struggling to balance the risks to their children's physical health against threats to their academic, social, emotional, and mental progress as they made decisions about remote or hybrid learning. For many low-income families without the option for remote work, there were often no safe choices, especially when their children or other family members were at an elevated risk of complications or death. Additionally, with healthcare workers experiencing unprecedented levels of burnout, stress, and anxiety, a renewed focus on caring for caregivers emerged. The "value" in the healthcare value equation only works when outcomes exceed the cost of delivering them and not at the expense of the people providing care.

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According to a 2021 Accenture survey of more than 25,000 consumers, 50% of consumers say that the pandemic caused them to rethink their personal purpose and re-evaluate what's important to them in life.[1]

A fundamental re-examination of what patients, their families and caregivers, and other consumers want, need, and value is needed.

OUR PROCESS

DPR Construction along with third-party researchers, SitePlus, engaged numerous healthcare systems to explore how to define value. The outcomes of these stakeholder interviews, research, and data analysis illustrate intersecting super trends that create a cascade of challenges for pediatric providers. There are things that will continue to play a role in the delivery of children's care—telehealth, artificial intelligence, shifting utilization, challenged economic environments, resource shortages, and divides in equity and social determinants of care—but their exact forms are unknown. Then, there are the true unknowns; those in which we don't know what we don't know. Even providers who have proven themselves proficient at navigating headwinds brought about by the pandemic face challenges going forward in managing a broader array of services and sites of care amid heightened provider and consumer expectations, safety needs, and of course, the looming certainty of new outbreaks of other diseases.

One recurring theme discovered in interviews is the criticality of thinking flexibly, outwardly, and in ways that enable a new spirit of community cooperation and action. When freed of traditional constraints, pediatric health care providers are able to re-imagine ways to increase access and bridge gaps in care. The industry needs new frameworks to address and demonstrate superior experience, clinical outcomes, and operational efficiency, while anticipating the changing value statements of pediatric health care consumers and how those shifts manifest in the delivery of care.

This report opens by exploring the meta trends causing shifts in value, coalescing into a proposed approach: the Pediatric Value Alignment Continuum. The Continuum can help pediatric providers think through new ways to address some of the most important issues in pediatric care. The second half of the report is dedicated to exploring the framework in detail, offering a set of provocations as a starting point for dialogue and exploring the resulting implications. While it is important to pose "what-ifs" to explore potential futures, it is equally important to ground the framework in today's emerging realities, harnessing strengths already present in today's business models for pediatric care. There are levers that lead to slow-change and others to fast-change, but the hope is that this report will enable pediatric providers to think futuristically yet act realistically.

1 Curtis, M., Quiring, K., Theofilou, B., Bjornsjo, A. (2021). Life reimagined: Mapping the motivations that matter for today's consumer. Accenture. Retrieved from: https://www.accenture.com/us-en/insights/strategy/reimagined-consumer-expectations

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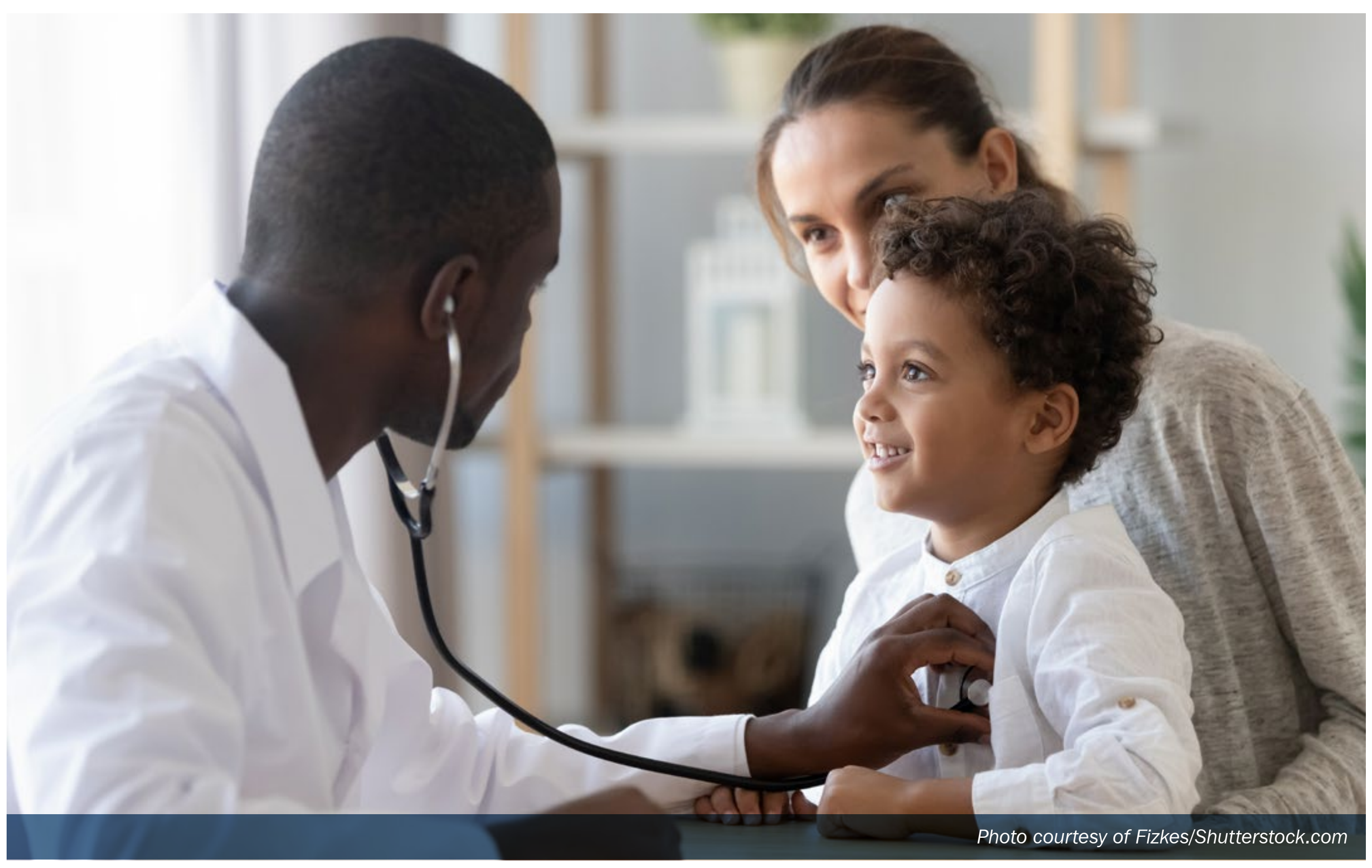
Meta Trends: Displacement, Misalignment, and Dislocation

A seemingly obvious question is what makes a pediatric hospital a pediatric hospital? A pediatric hospital is an institution dedicated to the care of children, yet there are many ways it can manifest and numerous interpretations of who the consumer is.

Consider three ways pediatric institutions differ from adult institutions.

- First, united around a common purpose to serve the child, pediatric providers have had great success in humanizing the care experience and achieving critical alignment between their clinical care, research, and teaching missions.
- Second, pediatric institutions set the tone for how someone may perceive and interact with healthcare institutions for the rest of their lives. Pediatric institutions are often the first major care encounter that either a new mother and/or a child may have had. As such, they have a unique responsibility to intervene, educate, and support as early and as often as possible to make a lasting difference in the family's life.
- Lastly, the limited number of pediatric hospitals in the U.S. means that, by default, they play a much greater regional role in addressing community health needs than their general hospital counterparts. Pediatric providers should tackle disease, foster prevention and promotion, and support health creation where they can. But they can also extend themselves as a force to tackle structural and systemic inequalities and inequities at the grassroots level in a way that general hospitals cannot.

Yet everything that makes pediatric institutions unique must be re-visited in the context of the meta trends that emerged and continue to emerge in the wake of the pandemic.



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1 Where Did the Sick Kids Go? The Vanishing Safety Net

Even prior to the pandemic, flat-to-declining inpatient utilization coupled with slowing national pediatric growth created increased competition among pediatric providers in a shrinking market. From 2008 to 2018, the median state decline in pediatric inpatient days was 10% as pediatric inpatient bed capacity across the nation decreased 12%, at a rate of 407 beds per year.[2] During the pandemic, there has been a 17% admissions reduction associated with a 7% reduction in hospital charges in 2020 versus the prior year.[3] The Children's Hospital Association estimates that children's hospitals lost $10 billion as a result of the pandemic.[4] Meanwhile, Medicaid and CHIP enrollment is as high as it's ever been, with a 16% enrollment increase from February 2020 to April 2021.[5] Going forward, leaders of pediatric health systems face the "tri-lemma" of tackling accumulated unmet health care needs, an uncertain forecast for volume recovery, and heavy reliance on Medicaid for reimbursement—a formula that is particularly vulnerable to any cuts to Medicaid programs.

2 Mind the Gap: A Not-So-Equal Opportunity Virus

As the pandemic has brought social and racial injustice and inequity to the forefront of public health, so too have these factors fueled the pandemic. Beyond the factors of genetics, biological sex, and age that affect an individual's vulnerability to the virus, added layers of social, environmental, economic, and racism only serve to heighten vulnerability towards severe disease. We define child health equity as the fair opportunity for every child to be as healthy as possible regardless of race/ethnicity, health conditions, financial resources, or geographic location, yet the crisis lay bare widening digital, educational, and economic inequities. The U.S. poverty rate rose in 2020 after five years of annual declines, according to the latest 2020 Census results, though stimulus payments helped to blunt the full impact. Meanwhile, the ripple effects of learning loss among the most disadvantaged students may lead to a reduction in lifetime earnings by as much as 2.4% for Black students and 2.1% for Hispanic students, compared to 1.4% for white students. This would translate to a potential annual GDP loss of $128 billion to $188 billion.[6]

3 The Hidden Pandemic: The Mental Health Crisis

In a survey of 16,370 parents across every state, one in three parents reports being very or extremely concerned about their children's mental health, and social and emotional well-being since the start of the pandemic. Parents also report increases in behaviors such as social withdrawal, self-isolation, lethargy, and irrational fears. However, despite these concerns, the number of mental health assessments and tests dropped by 6.1% in 2020 compared to 2019.[7]

4 Telehealth: Squandered Potential?

According to the 2016 American Academy of Pediatrics Periodic Survey, only 15% of pediatricians had used telehealth. During 2020, among a national sample of commercially insured children, telemedicine accounted for nearly 25% of problem-focused primary care visits, fluctuating from a high of 44% of visits at the beginning of the pandemic to a leveling out of 15% of visits by the end of the year. In that same studied period, telemedicine was only used for 0.5% of all preventive visits, though these types of visits in 2020 abruptly declined after the start of the pandemic.[8] It's worth noting that while telehealth removed access barriers to care for some, it merely shifted the barriers for those families without access to affordable devices and high-speed broadband access, language barriers, and low digital literacy.

5 The Reimagined Consumer (Providers, Parents, and Patients)

The pediatric consumer is no longer who they used to be. In addition to the wide range of micro-segments within pediatrics—ranging from infant to traditional adult with disparate health needs—the consumer-guided journey must consider the needs of the whole family, multi-generational households, and their lifestyle attributes. However, patient experience cannot take precedence over physician, nurse, and staff experiences. The wellness of patients should correlate with the wellness of providers.

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2 Cushing, A. M., Bucholz, E. M., Chien, A. T., Rauch, D. A., & Michelson, K. A. (2021). Availability of Pediatric Inpatient Services in the United States. Pediatrics, 148(1), e2020041723. Retrieved from: https://doi.org/10.1542/peds.2020-041723

3 Children's Hospitals Association (2021). The Financial Impact of the Covid-19 Pandemic on Children's Hospitals. Children's Hospital Organization. Retrieved from: https://www.childrenshospitals.org/Quality-and-Performance/COVID19/Resources/Financial-Impact-COVID19-Pandemic-Childrens-Hospitals

4 Krugman, S (2021). Where have all the sick children gone? American Academy of Pediatrics. Retrieved from: https://www.aappublications.org/news/2021/03/17/sick-children-pediatrics.

5 Centers for Medicare & Medicaid Services (2021). April 2021 Medicaid and CHIP Enrollment Trends Snapshot. Retrieved from: https://www.medicaid.gov/medicaid/program-information/medicaid-chip-enrollment-data/medicaid-and-chip-enrollment-trend-snapshot/index.html

6 McKinsey & Company (2021). Covid-19 and education: The lingering effects of unfinished learning. Retrieved from: https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-education-the-lingering-effects-of-unfinished-learning

7 Ibid.

8 Children's Hospital Association and American Academy of Pediatrics (2021). Children and COVID-19: State Data Report – A Joint Report from the American Academy of Pediatrics and the Children's Hospital Association. Retrieved from: https://downloads.aap.org/AAP/PDF/AAP%20and%20CHA%20-%20Children%20and%20COVID-19%20State%20Data%20Report%209.2%20FINAL.pdf

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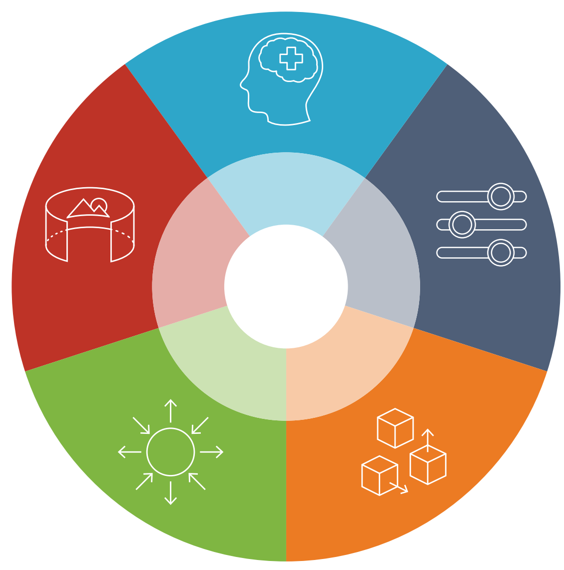
What We Discovered: The Value Alignment Continuum



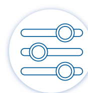
Real estate industry trends tend to overestimate change in the short-run and underestimate it in the long-run. In the case of the pandemic, many trends have evolved more quickly than they had in the last decade. During this time, people began asking, "What motivates me? What is important to me? And how does the world around me now address these new needs?" Whether or not people realize it, values, needs, and expectations have changed, and pediatric providers need to leapfrog standard expectations to address explicit *and* implicit needs for how they provide care.

Research responses present the opportunity to align evolving value and aspirational statements with potential responses from pediatric providers. The result is a framework that introduces five competencies, each mapped to both the explicit and implicit value statements of the pediatric consumer, moving from individual needs to collective impact.

Explicit value statements are defined as the primary or dominant need that can be directly expressed by the consumer. ***Implicit value statements*** are implied and at times, the consumer may not be aware of or even understand their implicit needs. Explicit values tend to run linearly and can be determined via direct requests for information, while implicit values are triggered by emotions and circumstances and may need to be discerned through more subtle forms of information exchange. **Both explicit and implicit needs must be met to create and sustain value.**

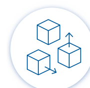
FUNCTIONALITY

Competently addressing the overt physiological needs of patients, as well their baseline emotional and psychosocial needs. A health system that has achieved functionality addresses the most fundamental question that a child and their caregivers have upon seeking care: "Will I be OK?" Accompanying this value statement are associated safety and security needs, which all now play an important role in achieving optimum health during the care encounter.



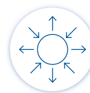
MAINTAINABILITY

Ensuring availability, consistency, experience, and quality of care across multiple locations and channels, evoking comfort and confidence that comes with familiarity. With maintainability, the health system reinforces and sustains the health experience post-engagement. This addresses the concern of "Will I be OK after I leave the hospital?" and begins the pathway towards ownership of one's health.



MALLEABILITY

Providing a tailored yet consistently branded experience, based on preferences, proximity, aspirations, availability, and goals. A malleable health system recognizes each child as a unique person and creates purposeful and meaningful experiences throughout the care delivery process. While the child and their caregivers want to know that their treatment reflects their unique circumstances, they also seek assurance that the health system understands their individuality.



SCALABILITY

Creation of a dynamic paradigm where one can manage and control one's well-being. Care does not have to occur at a designed location or even at a certain time of a child's life, but instead meets the child where they are. Scalability begins to touch upon the self-actualization of living a healthy life, motivating the child to successfully care for themselves throughout their lifespan.

EXTENSIBILITY

The ability to shape one's health as well as the health of others around them. The pediatric provider's influence extends into the child's daily life and their broader social sphere to create a health-reinforcing community. A health system that has embraced extensibility will also give the child the tools to influence their environment and social determinants that are responsible for perpetuating health inequities.

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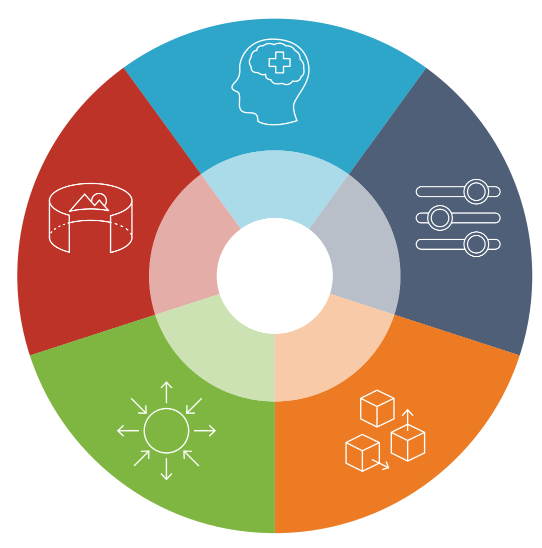
Rather than viewing the framework as a hierarchy where the fundamentals of a lower level must be completely satisfied before moving onto a higher level, think of each level as continuously overlapping the other. This means that any level may take precedence over others at any point in time.

The implications of this strategic framework for new and innovative practices, programs, facilities, and policies are far from simple. Each provider must carefully consider the level of ease, affected built and technological elements, duration of time to change, and level of investment required. Encouraging an "iterate-as-you-go" approach enables many bottom-up yet radically incremental changes as pediatric providers find their way towards what works best for their health system.



	EXPLICIT VALUE STATEMENT	IMPLICIT NEEDS	PEDIATRIC PROVIDER RESPONSE	IMPLICATIONS
1	**Will I be okay?**	Will I be safe? Will I be taken care of? Will I be heard? Can I trust you?	**FUNCTIONALITY**	1. A Widened Safety Net 2. Responsive Environments 3. Advanced Preparedness
2	**Will I be okay when I leave the hospital?**	Will you be there for me when I need you? Can you deliver what I need, when and where I need it?	**MAINTAINABILITY**	1. Community Nodes 2. Leveraged Expertise 3. Provider Consumers
3	**Will I be cared for as a unique individual?**	Do you remember me? Do you know who I really am? Are you personalizing my experience?	**MALLEABILITY**	1. Arrival Reimagined 2. Adapted Well-Being 3. Owned Environments 4. Chameleon Facilities
4	**Will I be able to take care of myself?**	Will you be my safety net? Can you help me anticipate my needs?	**SCALABILITY**	1. Nodal Ecosystem 2. Empowered Management 3. Focused Campuses 4. Shifted Portfolio
5	**Will I be able to take care of others?**	Can you help me take care of my family? Will you support my community?	**EXTENSIBILITY**	1. Renewed Experiences 2. Sustainable Teaming 3. Branded Extensions

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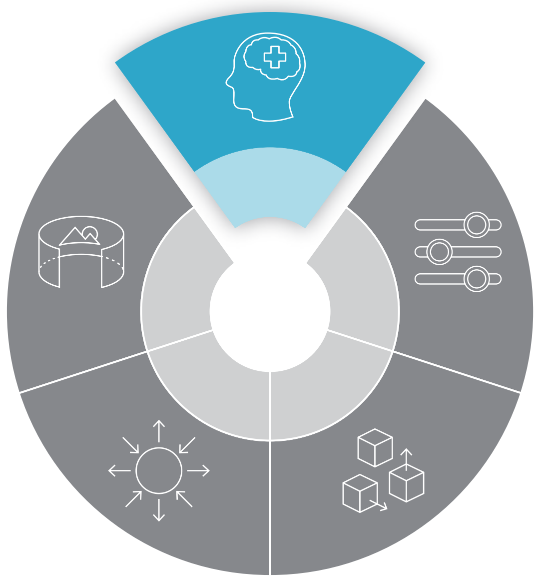
Functionality

“WILL I BE OKAY?”

Implicit needs:
Will I be safe?
Will I be taken care of?
Will I be heard?
Can I trust you?



Functionality is competently addressing the overt physiological needs of your patients, as well as their baseline emotional and psychosocial needs.

Essentially, this means the creation of environments that reassure patients and their families that everything will be all right through the use of cues and signals that connote safety and security, infection control, high quality of care, and compassion. Care at this level imparts expertise that fosters trust and forms deeply authentic and human connections between the pediatric provider and patient.

Expectations for safety now encompass physical, emotional, financial, and digital factors. Pediatric providers are now in the business of providing both health care and safety. Not only must they be safe, but they must also be perceived to be safe, or they cannot perform their essential duties. With the certainty that COVID-19 will not be our last pandemic, the role of infection control will permanently shift from its pre-pandemic focus of preventing hospital-acquired infections to a more holistic focus on emergency, bio-, and infection prevention preparedness, and overall safety. Moreover, as providers continue to grapple with combat fatigue, safety must also extend to protection from workforce burnout and creating environments of peace and respite. Understanding the new fears, anxieties, and stressors—and consumers’ changed expectations for safety—will be critical to restore confidence and create a safer environment that extends beyond physical protection, not only for children but also for their caregivers and providers.

The role of empathy in combating the pandemic of misinformation. The criticality of winning back consumer confidence cannot be overstated. As inequality has grown in the wake of the pandemic, levels of trust in providers have declined sharply among populations with high levels of inequality, typically the same populations that are the mainstay of the pediatric health care system. But equally stark is the decline in how patients perceive their providers to have trust in them. A study by Public Agenda found that fewer than half of people with Medicaid (46%) think that primary care doctors trust them as much as they trust people with other types of insurance.[9] Winning back trust is especially crucial at a time when children and their parents are bombarded with mis- and disinformation. As much as patients should listen to the experts, so too should experts listen to their patients.

Planning should be underway for managing future emerging pathogens. While impossible to prepare for every scenario, recent experience has shown the value of developing multiple sets of quickly scalable strategies and protocols to deploy in the event of an outbreak. Precaution strategies should consider both direct and indirect modes of transmission from droplet-based, airborne-based, contact-based, common vehicle, and vectorborne.

Achieving financial survivability by aligning to the interests of the patient. Cost reduction is one of the top priorities for offsetting losses stemming from the pandemic; it is likely that volume recapture alone will not be sufficient to return to pre-pandemic levels of liquidity. It is necessary to implement measures to optimize assets and reduce both fixed and operating costs. While health systems serving

9 Schleifer, D., Beach, M. (2021). “In Patients We Trust: Why Clinicians Need to Believe and Respect Patients. Health Affairs Blog, DOI: 10.1377/hblog20210427.553560

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adult patients can consolidate functions, leverage scale, and contract with payers to drive down and negotiate costs, pediatric health systems do not have that luxury. Thus, it is critically important to drive polychronic children to the right care settings, attract higher acuity children to inpatient settings, and optimize operations to accelerate financial recovery.

IMPLICATIONS

How do we create environments that adapt to an increasingly dynamic present?

Functionality implies a focus on what may be the remarkably shifted but intrinsically grounded "here and now." It addresses fundamental issues of confidence, trust, safety, and preparedness for what is known and likely to come. At the same time, our perspective remains anchored to facilities as the host of wellness and health services.

Expanded Safety Net: The underpinnings of holistic safety extend beyond physical security to the realms of emotional, nutritional, and financial well-being. An expanded purview of safety calls for solutions that look beyond the standard responses of perimeter hardening and continuous surveillance and toward foundational elements of safety. For instance, traditional arrival experiences such as inviting lobbies and open reception areas - may require supplemental smaller, private spaces where children and their families can be screened and triaged for issues such as food insecurity, access/transportation issues, or housing concerns. Providing safe spaces for families to reveal these issues will further bridge the critical link between facing social determinants of health and positively affecting outcomes.

Pediatric health facilities are community hubs, though hospital and ambulatory center retail partnerships have often focused on consumer goods and food services. Facility programming should consider how retail services can be expanded to include resources such as food banks, nutrition counseling facilities, and reconditioned DME offerings. Such resources pair detection of social issues with actionable prevention strategies.

Assessing a child's sense of safety is seldom understood through conversation, especially if they face violence or instability at home. Pediatric facilities must offer a means for children of varying ages to passively signal safety concerns that span the physical, social, and emotional realms. Solutions may range from low fidelity interactive displays that allow young children to identify their moods to a technology interface in patient rooms that presents a series of simple questions.

Responsive Environments: Building trust through environmental design requires a concerted focus on spaces that frequently heighten anxiety for children and their families. Exam room designs have been under scrutiny for many years, but more work should be done. Common arrangements often reinforce a hierarchical relationship between families and providers. Yet, Gen Z parents learn and make decisions by consensus and crowdsourcing rather than hierarchy[10]— they are seeking a collaborative partner to influence decisions about their children's health. Now may be the time to dispense with traditional solutions, migrating to a design in which all are seated in collaborative positions, physical examinations can be carried out without tables, diagnostic equipment and medical supplies are portable rather than omnipresent, and providers can seamlessly pivot from in-person to virtual visits.

Likewise, acute care patient rooms often serve to escalate anxiety, even with more well-intentioned interactive information and entertainment systems. The recent mental health crisis surrounding the pandemic is a wake-up call indicating that all care environments involve behavioral health. A myriad of physiologic indicators can be measured using a single wearable device. Responsive solutions can harness this technology to passively "tune" everything from lighting to ambient sound and entertainment in patient care spaces based on physiologic signals.

Advanced Preparedness: Natural disasters and the pandemic continue to reveal vulnerabilities in our care environments. A common response has been a focus on "hardening" facilities against every possible externality. How might we pivot this response to one of softening programmatic and design solutions to accept a wider array of operational states? For example, the advanced PPE supply, cleaning, and disinfection norms under the pandemic could illicit a move to permanently upsize Environmental Services and Supply Chain spaces. Rather than responding with expanded capital investments, repositioning and pairing these critical support elements with flexible clinical and administrative spaces allows for emergent program growth that flexes with external demands.

10 Capita (2021). What to Expect as Gen Z Starts to Parent. Retrieved from: https://static1.squarespace.com/static/5936b0c92994cab8bfe601d4/t/609ec4faa1df8618db7e5dae/1621017858595/Capita+Generation+Z+Parenting+Brief.pdf.

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In contrast, focused elements demand reconsideration in response to the credible threat of future pandemics and certainty of natural disasters. MEP systems that permit mass infectious isolation[11], mass protection, and 100% recirculation/smoke control modes mean that the design range and temporal energy consumption of systems will vary drastically. Both system capacity and automation programming must permit rapid response to incident-based operating modes to enable crisis response. Additionally, commonly specified materials and furnishings must be re-evaluated. Cleaning in the future will be driven partially by manufacturer guidance and partially by measures required to control pathogens and fully disinfect surfaces. This reality may steer future applications of materials that can withstand a wider range of chemical, UV, and electrostatic exposure.

IMPLICATIONS IMPACT MAP

Functionality

"Will I be Okay?"

PROVIDER IMPLICATION	FOCUS	IMPACT	INVESTMENT	COMPLEXITY
Expanded Safety Net: Whole family triaging, socially adept retail offerings, safety signaling	Whole Family Security	✪✪✪ **Moderate**	$ **Low**	⬂ **Low-Moderate**
Responsive Environments: Collaborative exam rooms, responsive and tuning patient rooms	Personal Security	✪✪✪✪ **Moderate-High**	$$ **Moderate**	⬄ **Moderate**
Advanced Preparedness: Facility softening, flexible support growth, responsive MEP systems, resilient material specifications	Facility Resiliency	✪✪✪ **Moderate**	$$$ **High**	⇧ **High**

11 Centers for Disease Control and Prevention (2021). Ventilation in Buildings. Retrieived from: https://www.cdc.gov/coronavirus/2019-ncov/community/ventilation.html#print

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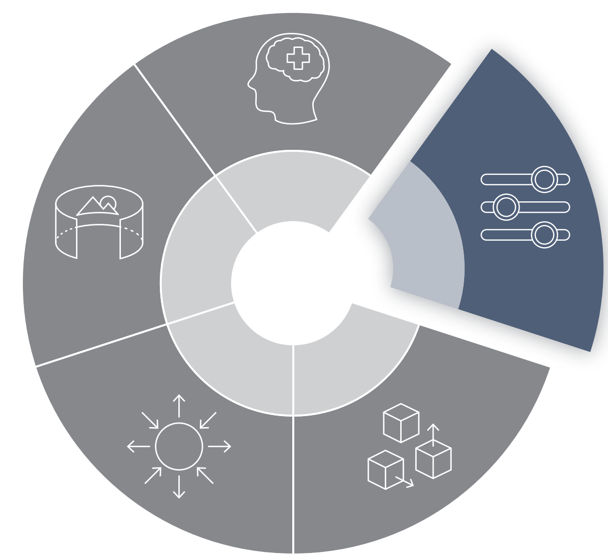
Maintainability

"WILL I BE OKAY WHEN I LEAVE THE HOSPITAL?"



Implicit needs:
Will you be there for me when I need you?
Can you deliver what I need, when and where I need it?

Maintainability creates availability and consistency of care across multiple locations and channels, evoking comfort and confidence that comes with familiarity.

The pediatric market is a relatively closed system. It is hyper-extended to provide and maintain health beyond the four walls of the hospital. This competency focuses on maintaining the patient's health after the point of care encounter where physical, mental, and social well-being is an actively sought goal and not merely the absence of disease or infirmity.

If you can't beat 'em, join 'em. From the KidsX Accelerator program bringing together more than 40 pediatric hospitals to partner with digital health start-ups to Google's partnership with Boston Children's to launch an app that connects individuals to clinical studies, the first half of 2021 saw several new partnerships between Big Tech and pediatric providers. The pediatric digital health market is still largely a blue ocean so there is a wide opportunity for pediatric providers to gain share. Pediatric providers should target digital health partners who ideate solutions to bridge gaps in care delivery, remove friction, and increase access. In this scenario, digital tools can help providers cast a wider net while offering a customized experience for each niche pediatric patient segment.

If you can't join 'em, beat 'em. While health systems have focused on improving access and quality, retailers and Big Tech have focused on convenience, speed, and frictionless experiences. However, while retail health has established its place in the care continuum, it is not a substitute for comprehensive, patient-centered, team-based, and coordinated care. If pediatric providers want to reclaim that business, they will need to offer the same benefits while delivering what retail health cannot—the humanization of the experience coupled with the assurance of high-quality outcomes by analyzing, interpreting, responding to, and predicting needs.

Provider burnout. Pediatric care professionals have responded to the pandemic with astounding selflessness and resilience, caring for patients despite the risk of profound personal harm to themselves and their families. Still, provider resiliency has reached a boiling point. Before the pandemic, 84% of pediatricians reported being happy outside of work; that figure dropped to 56% as the pandemic has worn on. The percentage of pediatricians who said they were either burned out or both burned out and depressed was 45%.[12] But while the pandemic has accelerated burnout, recent studies suggest that burnout is cumulative and itself symptomatic of something larger. Overreliance on electronic health records, rewards disproportionate to the level of effort required, and increasingly stringent rules for compliance and regulation have led to the treatment of data instead of the patient and a growing sense of lost autonomy. Provider and staff experiences must stay top of mind: what support do providers need while off-stage? What are key provider needs and modes of thinking for each step of the consumer journey? Just as providers consider consumer journey maps for patients, similar tools may make sense for their doctors, nurses, and administrators.

12 Medscape (2021). Medscape pediatrician lifestyle, happiness & burnout report, 2021. Retrieved from: https://www.medscape.com/slideshow/2021-lifestyle-pediatrician-6013520#1

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IMPLICATIONS

How do we foster and extend the wellness of our communities and caregivers?

Maintainability means shifting focus from one based on a specific facility to one of "place-plus," in which provider and patient factors lead decisions about services beyond the boundaries of a hospital or health center. It calls for solutions that ladder up from highly specialized and centralized facilities to the creation of wellness at scale.

Community Nodes: Community partnerships focusing on well-being aren't new, but they tend to be temporal and episodic in terms of both structure and impact. Providers such as Cincinnati Children's have demonstrated the impact of partnering with school districts to manage serious illnesses while keeping children in school. An extension of this concept could involve embedding primary and preventative care facilities into K-12 school districts that geographically align with a pediatric provider's PSA.

Permanently shifting ambulatory presence into schools opens a more continuous and longitudinal dialogue between children, parents, teachers, and the pediatric provider. Potential benefits include enhanced access and convenience for children and their families, greater awareness of social determinants of health, more proactive referrals for specialized care, and a stronger referral pattern for the pediatric provider. This strategy also sidesteps the downside of many retail and digital health clinics. Instead of a series of brief, transactional interventions, this approach creates a multi-year relationship between children and top pediatric providers.

The concept of school nodes presents new challenges and opportunities. For example, how is the branded environment and service experience of the pediatric provider physically extended into nodes? In addition, recognizing the shortage of skilled providers and the imperative to reduce operating costs, nodes are proposed as a cost-reducing site of service shift, rather than net new sites of care. Programming and planning for both pediatric hospitals and ambulatory centers have now become a multi-site analysis that balances volumes, spatial needs, and capital investments between hubs and nodes.

Leveraged Expertise: As pediatric providers continue to explore ways of meeting community needs, a proliferation of under-the-roof services are often deployed to amplify convenience and post-care support. These include pharmacies, durable medical equipment (DME) shops, and other amenities. While these functions often generate direct/lease revenue and consumer satisfaction, it is worth considering how they might be supplemented by external players who have mastered the game. For example, can pharmacies become specialized for unique applications (Oncology, Post-Op) while the bulk of scrips are distributed directly to the home by PillPack? Might consumer medical equipment and supplies be specified and coordinated prior to discharge, shipped by Amazon, and available at home hours later, with a pre-set consumables refresh order for extended at-home recovery?

Creating partnerships, access, and fulfillment for these use cases must factor into both facility and experience, as they will require coordination but may ease programmatic space requirements. The power of these ideas is twofold: they harness the capability of entities who know logistics and order fulfilment exceptionally well, and they form a continuous arc of post-encounter support for children and their families.

Photo courtesy of Pressmaster/Shutterstock.com

Provider-Consumers: The undeniable rise of burnout[13] and recruitment/retention issues signals the need to re-envision pediatric caregivers and their relation to their workplaces. Employers worldwide are adopting unique workplace experience strategies that allow employees to balance their career, well-being, and personal life in a more integrated fashion.

A step forward for pediatric providers may, ironically, involve reducing lounge spaces, which are often undersized, inconvenient, and poorly utilized. Instead, a wider network of small, "step-down" spaces adjacent to patient interaction zones where caregivers can move offstage, recharge for

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13 Fred, H. L., & Scheid, M. S. (2018). Physician Burnout: Causes, Consequences, and (?) Cures. Texas Heart Institute journal, 45(4), 198–202. Retrieved from: https://doi.org/10.14503/THIJ-18-6842.

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short periods of time, and address basic needs such as stretching, meditating, or having a drink of water. A complementary concept is caregiver prep and recovery zones. These might be positioned adjacent to primary staff entries, and permit caregivers to ramp up/plan for their day, de-escalate before going home, contact family, and handle personal business in a quiet, calm, dedicated setting.

Another way for pediatric providers to retain top talent is by accommodating certain aspects of work-life balance for caregivers. Retail giant Target offers a simple way for associates to balance external commitments using a "swap board" where employees can negotiate shift swaps —a concept that could easily be applied to many clinical and support functions. Partnerships with providers such as Amazon Fresh, Instacart, and Shipt coupled with easy-to-access and staffed receiving centers allow caregivers to obtain groceries and essentials as they leave for the day, eliminating stops and stress. An extension of internal dietary services could involve the preparation and sale of pre-planned meal kits for staff to take home. A cadre of local business partnerships can connect caregivers to everything from laundry services to lawn and home care, all via a concierge network.

IMPLICATIONS IMPACT MAP

Maintainability

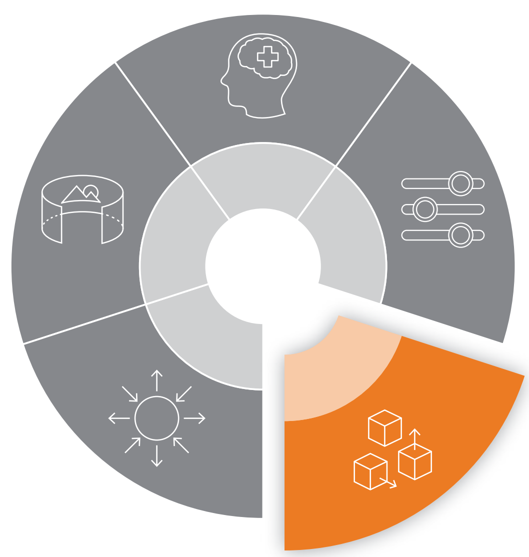
"Will I be okay when I leave the hospital?"

PROVIDER IMPLICATION	FOCUS	IMPACT	INVESTMENT	COMPLEXITY
Community Nodes: School nodes and site of service shifts	Access and Wellness	★★★★★ High	$$ Moderate	⬀ Moderate-High
Leveraged Expertise: External fulfilment partners, leveraging logistical prowess	Amplified Partnerships	★★★ Moderate	$ Low	⇔ Moderate
Provider-Consumers: Caregiver step-down spaces, prep/recovery zones, work-life balancing strategies and partnerships	Caregiver Wellness	★★★★★ High	$$ Moderate	⬂ Low-Moderate

Malleability

“WILL I BE CARED FOR AS A UNIQUE INDIVIDUAL?”

Implicit needs:
Do you remember me?
Do you know who I really am?
Are you personalizing my experience?



Malleability is the ability to provide a tailored yet consistently branded experience, based on individual preferences, proximity, aspirations, availability, and goals.

This competency acknowledges the need for environments that adapt to a broad spectrum of consumer segments by focusing on the consumer-guided experience, specifically experiences that elicit positive human emotions to build brand loyalty and improve engagement. Evolving approaches to care beyond the disease state or demographic segmentation are critical. The youngest generations demand to be seen and treated appropriately as individuals and are seeking out organizations that view them beyond the categories of “patient” or “employee.”

Successfully reaching the youngest generations will require a new front door—one that is multidimensional and consistent, virtual, and physical—with purposeful and meaningful consumer experiences that occur at every touchpoint.

Adapting to change in real-time. General hospitals have the benefit of observing and testing how to meet the preferences of older generations who make up the bulk of health care volumes for decades. Pediatric providers, on the other hand, typically provide the first major care encounter for most patients and their families—generations with emerging preferences. Just when providers had a handle on Millennial parents, they now must make conjectures about the next generation of Gen Z parents and their Generation Alpha children. Pediatric providers simply do not have the luxury of serving four to five generations in which adoption happens over decades—their parent-consumers are always setting trends and defining the equation of success through new behaviors.

Gen Z: From patients to parents and purpose-driven workers. The oldest Gen Z’ers turn 25 in 2022 and their influence on health care decision-making will continue to grow steadily as more reach parenthood. Gen Z’ers are progressive, radically inclusive, more racially and ethnically diverse than the generations before them, and on track to be the most educated generation. They are also the most likely to demand more fair, equal, and sustainable systems that truly give back, as evidenced by their participation in social movements. As parents, they may be more cautious and risk-averse, having experienced 9/11 during their formative years, and accustomed to active shooter drills and annual natural disasters. Members of this generation are also likely to reject a “one-size-fits-all” approach towards their children’s care and expect personalization of their health care experiences while sidestepping current complexities in health care. A McKinsey survey found that 58% of Gen Z consumers say they are willing to pay a premium for products that highlight their individuality.[14] As employees, the oldest Gen Z workers have known nothing but remote work as they start their careers. When asked about their career choices, nearly half of Gen Z’ers said they make choices on the type of work they are prepared to do and organizations for which they are willing to work based on personal ethics. The new generation of workers want to work for organizations that share their values—and they want to feel empowered to make a difference as part of these organizations.[15]

14 McKinsey & Company (2019). Finding the future of care provision: The role of smart hospitals. Retrieved from: https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/finding-the-future-of-care-provision-the-role-of-smart-hospitals
15 Deloitte Global (2021). The 2021 Deloitte Global 2021 Millennial and Gez X Survey Report.

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Curating the signature customer experience. In July 2021, Disney announced a $100 million commitment to transform children's hospitals, collaborating with the New York-Presbyterian Morgan Stanley Children's Hospital in Manhattan and Texas Children's Hospital to identify unique experiences that would ease the stress of a hospital stay. While much has been written about the application of Disney's customer experience to health care, some of the core tenets bear repeating. Disney is particularly adept at creating a cascading effect of small "wows" into one big WOW experience, from their MagicBands to their on- and off-stage approaches to the adherence of their quality service philosophy. They introduce the concept of "guestology," an idea that encompasses every possible element of the experience and optimizes even the most mundane moments. For Disney, "very satisfied" guests must experience something memorable or unexpected.

Likewise, pediatric providers can differentiate themselves by creating a superior, empowering experience through providing children and their families a sense of control in an unfamiliar and intimidating environment, and one that demonstrates a whole new level of care by recognizing and respecting the value of their time. Moreover, this superior experience must be delivered consistently across every location, at every encounter--including its online presence, mobile solutions, and physical environment.

The Reimagined Front Door. For many patients/consumers, their first COVID-era interaction with a health care provider was conducted virtually. The ongoing challenge for providers is how to reimagine the front door as we move further into a multi-channel health care world where blending the built and digital environments is paramount to a high-quality and valued care experience. Brick-and-mortar clinical locations and virtual visits must come together to create a robust experience for the patient and provider while also making the best use of capital expenditure for each.

The Gen Z influence will continue to grow steadily, and this cohort's consumerization of technology has empowered them as consumers in every industry—including health care. For providers wishing to create an exceptional patient and provider experience with a notable wow factor and self-choice, they must acknowledge consumer technology trends and adapt. A smarter, more informed and tech-savvy consumer/patient will place challenging and unfamiliar demands, changing how services are both marketed and delivered.

The good news for providers pondering further investment in a digital front door within an omnichannel care environment is that consumers/patients report exceptionally high satisfaction rates with virtual visits. More than 75% acomplete satisfaction with their virtual care experiences, and they find extended value in a provider that offers access to physical and virtual care simultaneously.[16] Providers that engage the patient/consumer by offering access to physical and virtual care simultaneously will see the largest benefit.

16 Kyruus Research (2020). Patent Perspectives on Virtual Care. Retrieved from: https://www.kyruus.com/patient-perspectives-on-virtual-care-report-2020-lp

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IMPLICATIONS

How does our real estate become part of a continuously relevant and responsive?

Malleability calls for pediatric health experiences and environments that don't simply address anticipated use cases but morph with external demands in real-time.

Arrival Reimagined: As the demand for and value of personalized convenience grows, the notion of physical arrival, especially in pediatric outpatient care settings, must be reimagined. Technology solutions already exist to permit scheduling, insurance verification, pre-check-in, and check-in through mobile portals that can be flexibly accessed prior to appointments. Perfecting this will mean arrival is no longer an event of greeting and wayfinding but rather one of signaling to providers that children are ready to receive care. Personalized arrival must enable environmental control for children and families. Passive spaces (lobbies and waiting rooms) should be rethought as active spaces (working areas, play spaces, and social environments) in which families can choose to spend their time prior to appointments. Especially important is the provision of distinct environments that are welcoming and age-appropriate to children of varying age brackets. Ideally, if the clinic or diagnostic settings are running outside of schedule, families are informed, and they are called to the point of care when caregivers are ready.

Adapted Well-being: The pandemic exposed a chasm in how we support the mental health of children during times of crisis and uncertainty. Gen Z/Alpha children face a myriad of climate, health, and financial realities that are driving up anxiety, loneliness, and depression—conditions that emergency departments are often ill-equipped to handle. Now is the time to consider solutions that redirect acute mental health access from Emergency Departments and Urgent Care Centers to facilities with the environment, team, and resources to de-escalate, diagnose, and support children.

An effective solution permits unscheduled and extended virtual or walk-in access. It pairs consultation with lounge spaces that foster de-escalation and assessment, as well as secure rooms for high-acuity encounters. Additionally, spaces should be provided for a limited range of caregivers to easily span between direct encounters, virtual consultation, and monitoring. Finally, considering future pandemics or health emergencies, this environment should be able to scale into neighboring functions to handle increased volumes as children experience the fallout of prolonged social or personal disruptions.

Photo courtesy of Dragon Images/Shutterstock.com

Owned Environments: Gen Z is highly individualistic and suspicious of labels. Decisions are made through crowd-sourcing and expansive social networks, rather than singular authoritarian sources. Whether their Gen Alpha children will adapt or abandon these mindsets is unknown, but a deep sense of individualism and singular identity will likely be prevalent among them.

Adaptable environmental controls to suit individual preferences is a simple yet enduring experiential solution. In acute care settings, this means that children establish and control aspects of their surroundings, including lighting, sound, entertainment, and imagery that reflects their individual preferences. Ideally, these parameters travel with the patient, such that preferences extend from patient room to diagnostic zones, thus changing the concept of "my room" to "my care environment."

Close consultation with family and social networks is the norm for Gen Z, and that behavior is likely to pass on to their children. While personal devices provide a portal to the world, they do not singularly provide a safe physical space to access networks. How might the creation of critical decision zones (ED & perioperative family areas, patient rooms) be rethought so that children and their caretakers can visually and verbally bring their social and family networks into the care environment? Solutions may include numerous family consultation pods, patient rooms with enhanced technology to support group consultation, and an enhanced telecommunications and WiFi backbone to support these functions.

Chameleon Facilities: A stark lesson from the pandemic is that highly specialized environments of care can become barriers when conditions rapidly change. Beyond pandemics is a landscape of disruptive technologies and therapies that may radically alter both volumes and demands for physical space in the future. Facing the unknown requires exploring difficult questions about anticipating acute care, diagnostic, and ambulatory facilities that can embrace change.

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An initial question centers on pediatric acute care units. Adaptable patient rooms have long been explored to rapidly accommodate acuity levels. What would it mean to implement fully adaptable inpatient units, such that an entire inpatient tower could be quickly restacked in response to a public health crisis or a sudden shift in volumes? This notion suggests mechanisms such as stringently consistent support cores, highly flexible care team collaboration zones, and radically universal patient rooms that support most, if not all, modes of care.

A similar and perhaps more provocative concept plays out in the ambulatory sector: how might general and specialty clinics pivot to support extended and inpatient care? Such a concept elicits a need for exam spaces that break down into patient rooms, teaming/supply/support areas that become support cores, and administrative areas that transition to unit oversight and support functions. A few years ago, this concept may have seemed preposterous, but in 2020, many states granted waivers that permitted care in everything from tents to convention centers. When our choices become sub-dividing teams to distal and hastily assembled sites of care versus rezoning under the roof, the latter may be an attractive option to exercise.

IMPLICATIONS IMPACT MAP

Malleability

"Will I be cared for as a unique individual?"

PROVIDER IMPLICATION	FOCUS	IMPACT	INVESTMENT	COMPLEXITY
Arrival Reimagined: Technology enabled arrival, arrival signaling, active engagement spaces in lieu of waiting	Optimized Experience	✪✪✪✪ Moderate-High	$$ Moderate	⬀ Moderate-High
Adapted Wellbeing: Redirection of mental health encounters away from ED/Urgent Care and towards consultation, assessment, and coping, monitoring environments	Access and Wellness	✪✪✪✪✪ High	$$ Moderate	⬀ Moderate-High
Owned Environments: Migrating environmental controls, social consultation spaces and solutions	Optimized Experience	✪✪✪ Moderate	$$ Moderate	⬄ Moderate
Chameleon Facilities: Adaptable inpatient units, ambulatory-to-acute flex solutions	Facility Resiliency	✪✪✪✪✪ High	$$$ High	⇧ High

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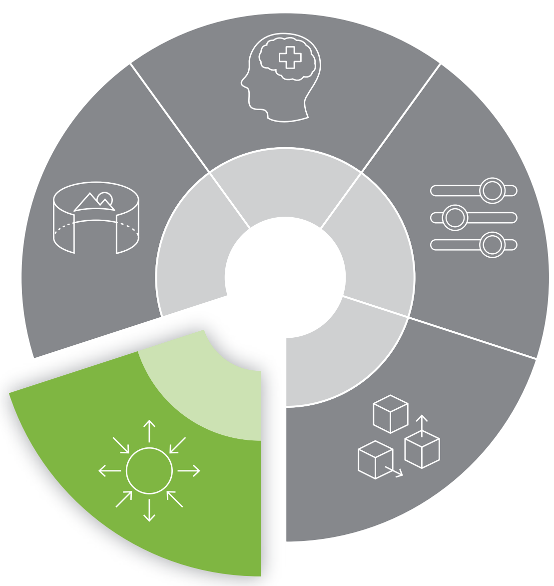
Scalability

"WILL I BE ABLE TO TAKE CARE OF MYSELF?"

Implicit needs:
Will you be my safety net?
Can you help me anticipate my needs?



Scalability creates a dynamic paradigm where one can manage and control one's well-being. Care does not have to occur at a designed location or even only at a certain time of a child's life but instead meets the child where they are.

Scalability means systems, services, information, and resources are aligned and connected in an intuitive, efficient, and effective manner that gives rise to "boundaryless" care that can be delivered anytime, anywhere. Patients, family, staff, and providers know how to navigate the system in a way that makes the best use of resources and time. The health system places the child and their family at the center of every interaction and the child is empowered to interact successfully with their biological, physical, and social environments throughout their lifetime.

Within Scalability is the notion that health care events that occur early in life can "program" a child's future health and development, as well as their attitudes towards health care throughout their lifetime.

Horizontal and vertical longitudinal care. Currently, we seek to improve health by increasing access, improving quality, and building health systems that address the treatment of chronic and acute illnesses. A shift to longitudinal care, not only through the disease lifecycle but throughout a child's life, requires vertical integration (within the health sector) and horizontal integration (across health and other sectors) of a broader set of venues and partners over a longer timeline. Specifically, longitudinal care requires strategies that emphasize upstream interventions to ascertain health risk and integrated services that become lifelong pipelines for healthy development. While all care episodes are important, there is an opportunity to build or strengthen health encounters during the earliest periods of development; for example, to ensure a healthy pregnancy for the mother and baby, a healthy childhood during early development, and a healthy adolescence.

Out-of-hospital thinking: The health care ecosystem. Today, the pediatric health system is separated from most other aspects of patients' lives. It lives in its own sphere and children generally encounter it unwillingly and/or infrequently. Children and their families experience both wasted time and unnecessary steps within a health system by traversing redundant layers of care, largely because care processes are rigidly sequential and organized around episodic events. Moving beyond systems-thinking to placing pediatric care in its wider ecosystem allows pediatric providers to create self-reinforcing experiences for patients by unlocking a broader array of services before the need for acute care arises. While the health system needs not be responsible for the full spectrum, it can take responsibility for linking people to services and support. What follows is the rise of "boundaryless care," delivered anytime, anywhere, and to anyone.

IMPLICATIONS

How does our real estate portfolio begin to pivot from system to ecosystem logic?

Scalability defines an intentional move away from episodic family interactions with pediatric health providers to an omnipresent conversation that begins before birth and extends to adulthood. This notion fundamentally challenges the logic of a highly integrated and comprehensive acute care campus that is supplemented by an array of ambulatory clinic settings.

Nodal Ecosystem: As discussed, schools present an initial high-impact and high-contact opportunity for nodes. In the context of scalability, that thinking extends to a more

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encompassing network that couples physical and digital realms. By surrounding children and families with access, the conversation pivots from asking how families respond to illness to how they are empowered to explore their health and engage providers.

In the physical realm, scalability means that branded, compact physical nodes are further distributed to capture locations where children and families spend their time: gyms, care facilities, grocers, community centers, and even major community events. Primary care largely ceases to exist in a centralized form and instead becomes a highly networked presence within the community. An annual physical becomes a series of rapid touchpoints rather than a single encounter. Meanwhile, specialty care fields, particularly those with high pediatric growth potential (Ortho, Rehab, Neuro, Behavioral), begin an intentional migration from centralized clinics to community nodes.

From a technological perspective, providers are beginning to tap social networks to engage families and children to think about their wellness. Leveraging social networking sites to promote healthy habits, permit on-demand virtual consultations, and share real-time node availability encourages personalized family and child "in-reach" to wellness and health services.

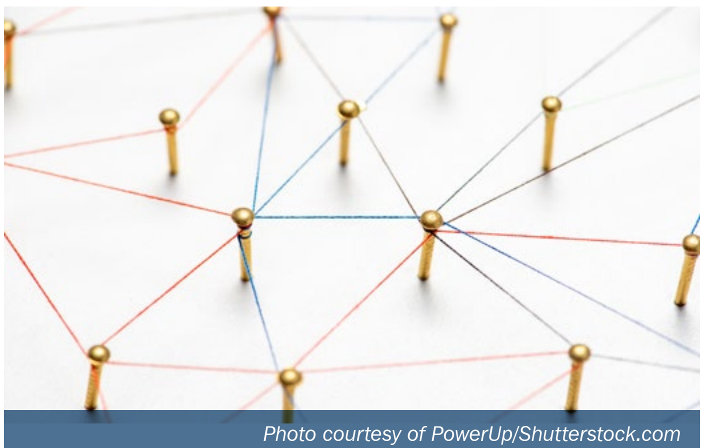

Photo courtesy of PowerUp/Shutterstock.com

Empowered Management: The CDC estimates that nearly 1 in 4 children face a chronic health condition such as asthma, obesity, or diabetes.[17] A scalable approach to pediatric health requires the removal of both temporal (pandemics, disasters) and pervasive (social inequities) barriers to wellness. Virtual health platforms that couple regular virtual interaction alongside monitoring technologies (both wearable and stand-alone diagnostic) allow children and families to monitor and manage disease on a continual basis. When leveraged successfully, virtual platforms may grow market share, reduce unnecessary in-person visits, and increase access.[18][19]

Several considerations arise with respect to virtual health when considering the patient's experience and the facility environment. While attractive, these platforms are far from "plug-and-play" solutions. Pediatric providers must first consider engagement—not only how virtual health solutions will be distributed, but how children will be properly trained on how to use them. Another consideration is connectivity: Do families have the technology infrastructure to support a virtual health platform, and if not, how can this barrier be overcome? From a facility and staffing standpoint, virtual health requires a physical or virtual command center in which coordinators and caregivers monitor trending, engage with children to maintain participation, and initiate logistical processes (provisioning, return, reprocessing, repair.)

Focused Campuses: Scaling self-empowered care may radically alter the role and layout of physical campuses. How do we balance an equation in which pervasive convenience and access is crucial, caregiver capacity is relatively static, and margins are declining? Scale at cost is not an option. Therefore, the migration from system to ecosystem becomes a strategy of distributing and focusing resources, not adding them.

What would this look like? If the ecosystem is truly functional, basic primary and preventive care would no longer be grounded in ambulatory centers; it would shift to a nodal network. While a similar move for all specialty care is difficult to envision, large and high access/growth specialties (Ortho, Neuro, Rehab) also become largely nodal, selectively joining their primary/preventative counterparts. Thus, ambulatory care facilities evolve into referral centers for super-specialty care, major modality diagnosis (CT, MR, etc.), and outpatient interventional care. This results in two outcomes: Ambulatory sites are more centralized as they are no longer the highly distributed first line of interaction for the pediatric provider, and they are also more focused on high acuity care.

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17 Centers for Disease Control and Prevention (2019). Managing Chronic Health Conditions. Retrieved from: https://www.cdc.gov/healthyschools/chronicconditions.htm

18 Dorn, S.D. (2021). Backslide or forward progress? Virtual care at U.S. healthcare systems beyond the COVID-19 pandemic. npj Digit. Med. 4, 6. Retrieved from: https://doi.org/10.1038/s41746-020-00379-z

19 Curfman, A, Hacknell, J, Herendeen,N, Alexander, J, Marcin, J, Moskowitz, W, Bodnar, C, Simon, H, McSwain, H (2021). Section on Telehealth Care, Committee on Practice and Ambulatory Medicine, Committee on Pediatric Workforce. Pediatrics American Academy of Pediatrics. 148 (3) e2021053129; DOI. Retrieved from: https://doi.org/10.1542/peds.2021-053129.

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For pediatric acute care campuses, Scalability suggests that the concept of “everything under one roof” begins to intentionally fall away. Ambulatory care may remain aligned to the acute campus, but only in the form outlined above. Acute care pediatric hospitals become places for focused emergent/trauma, inpatient interventional, and acute/critical inpatient care. Rather than acting as the universal anchor of health, hospitals are the final and highest-acuity referral centers for pediatric providers.

Shifted Portfolio: The real estate strategy implications of Scalability are significant. Today, strategies consider a portfolio of 15-20 ambulatory sites that ladder to a comprehensive super-specialty acute care hospital. Under a scalable ecosystem, the portfolio becomes an ecosystem of digital services laddering to 50-70 nodes, a reduced cadre of 5-10 ambulatory centers, and an acute care hospital. Nodes are somewhat dynamic and opportunistic—they exist so long as they meet continuously monitored performance and social impact criteria. Ambulatory sites are cautiously chosen based on an array of access, disease prevalence, and social considerations. The hospital maintains a legacy site presence, but with a static or smaller footprint.

IMPLICATIONS IMPACT MAP

Scalability

“Will I be able to take care of myself?”

PROVIDER IMPLICATION	FOCUS	IMPACT	INVESTMENT	COMPLEXITY
Nodal Ecosystem: Social network nodes coupled with physical nodes at high engagement locations, primary and secondary care distribution	Access and Wellness	★★★ Moderate	$$ Moderate	⬀ Moderate-High
Empowered Management: Deployment of virtual health and home connectivity support	Access and Wellness	★★★★★ High	$ Low	⬂ Low-Moderate
Focused Campuses: Primary/ secondary shift to nodes, higher acuity ambulatory, hospital as infrequent highest acuity encounter	Sustaining Systemness	★★★★★ High	$$$ High	⇧ High
Shifted Portfolio: Nodes laddering to fewer ambulatory, single hospital model	Sustaining Systemness	★★★★★ High	- N/A	⬀ Moderate-High

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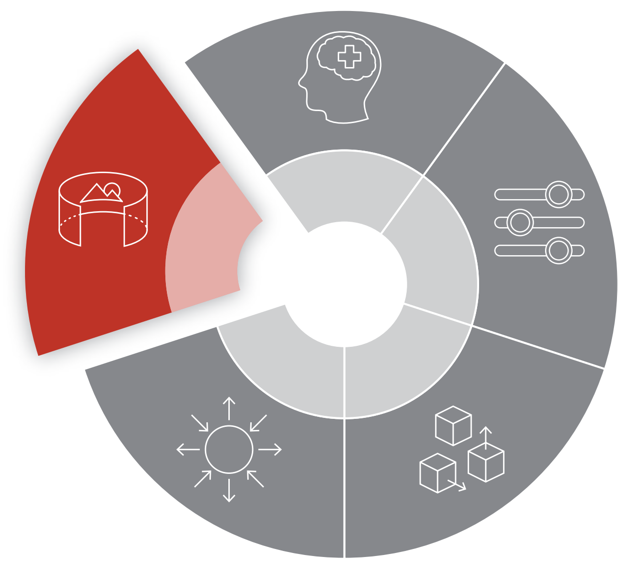
Extensibility

"WILL I BE ABLE TO TAKE CARE OF OTHERS?"

Implicit needs:
Can you help me take care of my family?
Will you support my community?



Extensibility is an individual's ability to control their health, as well as the health of others around them. The pediatric provider's influence extends into children's daily lives and their broader social sphere to create health-reinforcing communities.

Sustained health depends on nurturing environments, communities, human agency, social relationships, and planetary health. Sustained change requires people with buy-in, motivation, passion, and action. This level focuses on developing transferrable health skills and competencies throughout children's lifetime. Similar to the concept of building generational wealth, what if each successive generation of children could be taught to be healthier than the previous generation? How would this change the ability of children to view themselves as active participants in their health versus passive recipients of predetermined life courses? How do we convert early childhood experiences with health institutions into a lifetime of health?

Another component of Extensibility borrows from life course theory and incorporates the concept of linked lives, the perspective that lives are lived interdependently and extend beyond formal family ties to include friends, neighbors, and community stakeholders. The pediatric provider plays a role in helping children and their families extend their social spheres to create a ripple effect of healthy behaviors.

Increasing the Child's Lifetime Value (CLV). The way children experience their early health care encounters influences how they view health care, health, and wellness for the rest of their lives. Typically, the concept of the lifetime value metric is used to measure how much customers spend over the span of their relationship with an organization. The unique nature of a pediatric health care organization necessitates a spotlight on the patient and family experience as a tangible differentiator for many consumers who cannot discern differences in clinical outcomes and acumen. Favorable experiences and encounters can translate into a positive bi-directional relationship for the entirety of childhood and longer, given siblings and future generations.

Providing inter-generational care for multi-generational households. In 1980, only 5% of children lived in a multigenerational household, defined as a 3+ generation household. In 2021, nearly half of Americans with children under 18 living in their homes reported living in a multigenerational household. Findings from The Harris Poll found that, among those living in a multigenerational household, 57% stated that they started or are continuing to live together because of the pandemic, and 72% of those currently living in a multigenerational household plan to continue doing so long-term.[20] Suffice to say, multigenerational living is here to stay. These trends are among growing evidence that Gen Y approaches the concept of "Family" in a very different way than previous generations. Pediatric health systems will need to revisit the concept of Whole Family Care to be inclusive of multiple generations.

Climate-Smart Health Care. The Centers for Disease Control and Prevention estimates that three-quarters of new human diseases originate in animals—this was the case for Ebola, SARS, MERS, bird flu, swine flu, and, likely, the novel coronavirus. The growing wildland-urban interface around the world increases the odds that animals will pass diseases to us. A 2019 UN report noted that 75% of all land has been

20 Generations United (2021). Family Matters: Multigenerational Living is on the Rise and Here to Stay. Retrieved from: https://www.gu.org/resources/multigenerational-families/

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"severely altered" by human actions, as has 66% of the world's ocean area. Specific to health care's impact, a study by PLOS Medicine estimated that greenhouse gas emissions from the health sector in the United States represent 10% of national emissions, with hospitals comprising one-third of those emissions.[21] But even recognizing the greater risks we are taking with respect to accelerating climate change, what role can pediatric institutions play in flattening its trajectory? As trusted voices with purchasing power, pediatric providers have many ways to mitigate effects, including intelligent investments in renewable energy and energy efficiency, plant-based substitutes for animal food products, sustainable procurement, and advocacy for local and state policies that support climate-smart policies and a low-carbon footprint. Many construction and design approaches can support provider sustainability agendas.

IMPLICATIONS

How does our real estate strategy transition to a hosted platform of experiences?

What is the role of real estate as we consider Extensible pediatric health? A purely functional vision might depict the near elimination of face-to-face encounters in favor of virtual health at a mass scale, nanotechnology as the medium for almost every diagnosis, and the hospital as a super-regional place that children rarely, if ever, encounter in their lives. While disruptive innovations will undoubtedly alter the thinking about pediatric health, Extensibility is more than scale and presence—it encompasses joy, curiosity, community, family, and sustainability.

Renewed Experiences: It is no secret that positive connotations between brand, place, and experience influence behaviors from early childhood, often with longevity that lasts well into adulthood. Extensibility does not imply a cloying marketing campaign that attempts to rebrand health care services as consummately enjoyable. But how might a pediatric provider's reach extend to environments that inspire children and create positive lifetime associations?

Combining aspects of enjoyment, discovery, and basic health care into one environment begins to blur the line between health care and wellness. For a pediatric provider, this might take the form of a "Living Lab" in which families explore the underpinnings of wellness (physical, mental, spiritual), experience them in action (free-form activities, meals, games), and then draw links between the two (cause-and-effect biometric readings, interactions with caregivers). An age-agnostic environment that welcomes multi-generational families breaks down notions of child-oriented activity in favor of whole-family discovery centers.

Photo courtesy of Africa Studio/Shutterstock.com

Sustainable Teaming: Current generations of pediatric consumers are demanding governments and institutions to be socially and ethically responsible.10 As pediatric providers stretch internal resources in support of their missions and the values of their consumers, a question arises: Is the best operational play to own and control every supporting dimension of the care experience, or rather to assemble and coordinate the best resources available? Truly advancing climate-smart health care might suggest a shift from the former to the latter strategy.

When considering the environment of care, sustainable teaming could change the real estate landscape. Rather than competing for the best minds in sustainable health to create and assemble a bespoke wholly-owned facility, pediatric providers would look outside for a service provider with existing success. Physical sites of care could be constructed via private equity by consortiums that specialize in the development, ownership, and operation of highly sustainable facilities. Pediatric providers would set strict environmental and operational parameters for facilities but migrate from an ownership model, which requires retention of highly sought talent coupled with maintenance and depreciation concerns, to a lease/consumer model in which facilities are simply a hosting mechanism for their services.

By becoming outspoken consumers of climate-smart facilities and services, providers take meaningful action while focusing on their core mission. Models such as widely employed public-private partnerships in the UK and Canada demonstrate that variations of this concept can work very effectively.

21 Mercer C. (2019). How health care contributes to climate change. CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne, 191(14), E403–E404. Retrieved from: https://doi.org/10.1503/cmaj.109-5722

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Branded Extensions: A health-reinforcing community implies that pediatric wellness and health surrounds children. Concepts such as partnerships, nodes of care, and virtual health have been explored throughout this discussion. What is the Extensible form of these ideas?

Branded extensions look beyond conventional interaction points with children, such as schools, to more temporal but frequent moments. Extensions build recognition of wellness in everyday life and form positive associations for children. It may take the form of a pediatric provider and national restaurant operators partnering on an interactive decision-making tool that guides children on how to make smart food selections. Another concept pairs pediatric providers with children's summer camp operators to design programming that unobtrusively but intentionally weaves and rewards wellness activities into the program. A third idea embraces the popular medium of gamification—leveraging the platform of online children's games to explore health and progressively reward adherence to life-improving habits.

Viewed individually, branded extensions are low impact. They represent short and subtle moments in time. However, when thoughtfully designed, their impact progressively grows. Repetitious interactions become the foundation for good habits. Most importantly, those habits are associated with positive life moments—enjoying a meal with family, socializing with friends, and playing a game. A community fosters the health of children, and healthy children, in turn, can care for those around them.

IMPLICATIONS IMPACT MAP

Extensibility

"Will I be able to take care of others?"

PROVIDER IMPLICATION	FOCUS	IMPACT	INVESTMENT	COMPLEXITY
Renewed Experiences: Living labs; family and multi-gen engagement	Optimized Experience	✪✪✪ Moderate	$$ Moderate	⬂ Low-Moderate
Sustainable Teaming: External partnerships for climate-smart care, facility as hosting mechanism rather than owned asset	Amplified Partnerships	✪✪✪✪✪ High	? Variable	⇧ High
Branded Extensions: Partnerships to build positive connotations with healthy habits (restaurants, camps, gamification).	Sustaining Systemness	✪✪✪✪✪ High	$$ Moderate	⬂ Low-Moderate

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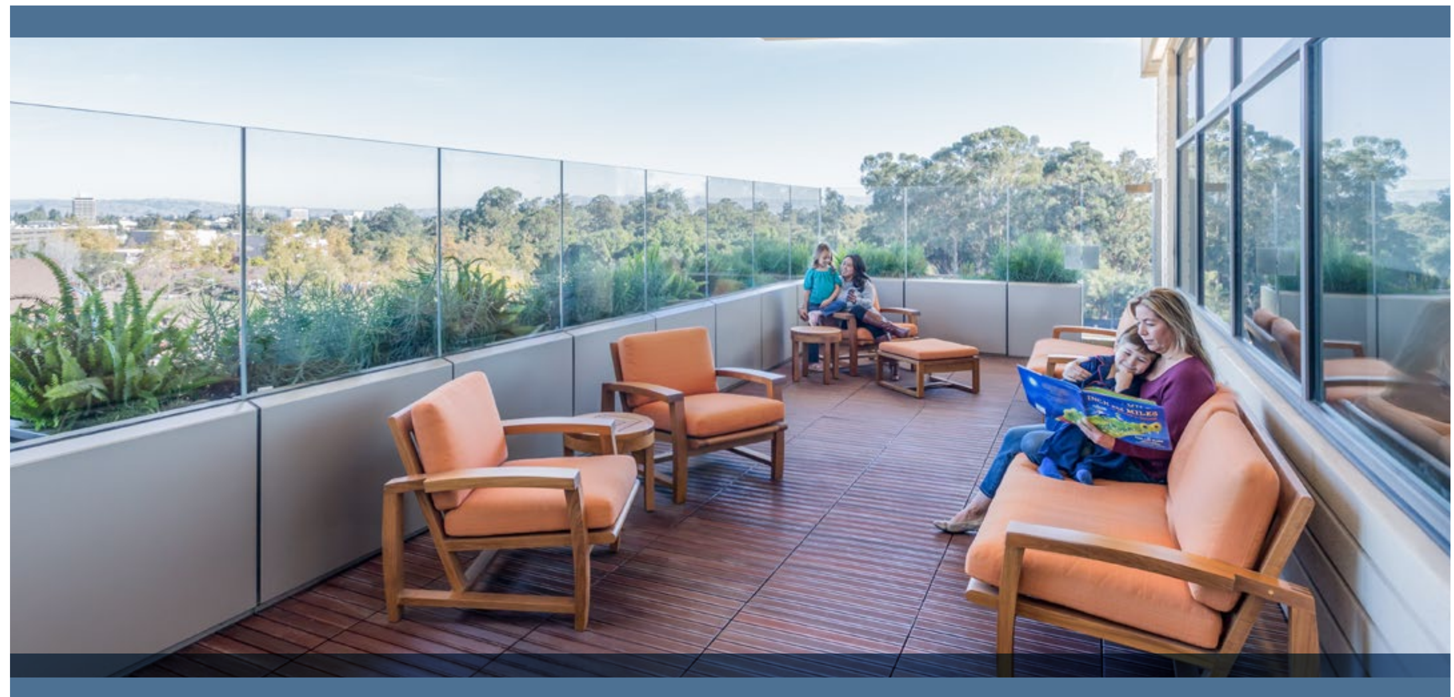

Conclusion: How Pandemics End

The COVID-19 pandemic has brought numerous challenges, but there is good news, as well. While most Americans (89%) mentioned at least one negative change due to the pandemic, 73% mentioned at least one unexpected upside.[22] There is a small percentage of children—those suffering from social anxiety or bullying—for whom the school closures appear to have been beneficial, or at the very least mitigated further harm. One-third of Americans also mention positive impacts to their relationships—the ability to spend more meaningful time with family and the use of video chats to help them connect more with distant family.[23]

Periods immediately following historical plagues are often followed by eras of technological, artistic, and social innovations. After the Bubonic Plague, severe labor and food shortages led to innovations such as the fulling mill, horse-driven plow, three-field agriculture, and eventually the printing press. The Roaring Twenties, after the 1918 Spanish Flu pandemic, brought about the radio, jazz, the Harlem Renaissance, and women's suffrage, not to mention developments in microbiology and public health. These spurts of progress suggest that resiliency in and of itself may not be enough. Nassim Nicholas Taleb, the author of The Black Swan, writes that rather than focusing on resiliency, we instead build and design systems that are "antifragile," that is, systems that can not only survive but flourish when subjected to randomness, uncertainty, and shock.[24]

WHERE TO BEGIN?

At their core, health systems are a function of their people—providers, administrators, staff, patients, family members, caregivers, and community members. If their people are fragile, then it is likely that the system will be as well. Providing people with the means to collect and understand data, make agile decisions, learn new skills, and think creatively so they can take informed risks during low-information periods can be the first step in enabling an antifragile mindset.

Pediatric health leaders that aim to simply recover losses and rise to the challenge of the next crisis are missing an opportunity. Leading providers, instead, restate purpose, find the upside in volatility, and harness disruption, no matter how unpredictable, to create new and unexpected value. ■

22 Pew Research Center (2021). In their own words, Americans describe the struggles and silver linings of the COVID-19 pandemic. Retrieved from: https://www.pewresearch.org/2021/03/05/in-their-own-words-americans-describe-the-struggles-and-silver-linings-of-the-covid-19-pandemic/
23 Ibid.
24 Alhir SS (2017). The Anti-Fragility Edge: Antifragility in Practice. London, UK: LID Publishing.

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