

OMNICHANNEL HEALTHCARE CONSUMERISM:

Are We Ready for the Future?

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INTRODUCTION

Dear Reader,

In this paper, the results of our interviews with healthcare leaders across the U.S. are summarized. We asked questions pertaining to the omnichannel approach of consumerism within the context of healthcare services and how it has impacted the strategies being implemented within their environments. We asked each contributor to answer five questions. The contributors' roles are diverse: COO, Construction Leaders within the hospital, architects, engineers, equipment planning and technology experts, and professionals who are sharing knowledge on products or research regarding the viability of new solutions from furniture to AI to Robotics. All contributors are working every day in the industry to develop strategies to deliver high quality healthcare services more efficiently.

The objective of this paper is to provide you, the reader, with information and ideally, a clearer picture of the direction we may be headed in the future.

To provide clarity, we will start by defining omnichannel consumerism. Omnichannel is a strategy that has been successfully deployed in a retail environment for many years as product was sold not only via brick and mortar stores but online as well. Think of Amazon. Just 15 years ago, market share of retail online sales was just a small portion of all product sales. By 2019, online sales for retail exceeded total in store sales.

Today, it is clear that a large percentage of our population, and definitely, the majority of millennials purchase more services online than they do in person. It makes sense that the expectation (by consumers) of securing healthcare services continues to be through multiple channels (choices of when, where and how) when securing healthcare services. The minimum expectation is that each of us, as the consumer, is in control as to what service we want and need, when we want it, how we want our journey to go; how we want to interact with the physician, or the nurse, or the pharmacist, etc. We want to leverage the power of technology – which could be Telehealth, a smart watch, our phone or other device, or drive to our doctor's office and be face to face.

Recently, I came across an article about omnichannel in healthcare. The author was astute in explaining that omnichannel was NOT only about what hospitals or physicians were wanting to provide us and how services will be provided but how we as consumers want to access such services – in the comfort of our home on Sunday night, in person at 8:00 pm in a neighborhood clinic, or through our phone or all services at one location all in one day with one appointment. Omnichannel goes way beyond having the only option be an emergency room – which we all know is the most expensive option or in a physician's office where we have to make an appointment a month in advance and wait an hour in our car or in a waiting room.



INTRODUCTION

From extensive research and many conversations, it seems the following assumptions apply to a large population of Healthcare consumers (in no particular order):

- Omnichannel is the minimum expectation
- Human interaction is still desired and not going away
- Technology must be seamless and add value via efficiency and cost savings
- Price transparency, quality, and speed are basic points of entry
- Flexibility and consistent experience are must haves
- Desire for one stop shopping as close to home as possible is preferred

We hope you enjoy reading the paper as much as we enjoyed connecting with all our contributors to bring you this information. Feel free to email us with any feedback.



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EXECUTIVE SUMMARY

By the end of 2018, U.S. Healthcare spending had reached \$3.8 trillion or \$11,500.00 annual spend per person. Today, just four years later, it is projected that the average American will spend an estimated **\$15,000.00** by end of this year. By **2023**, as a total population, U.S. Healthcare spending will exceed **\$4.3 trillion**. This is an increase of nearly 14%. Many of us would agree that this continued increase in spending is unsustainable as a nation. While we all recognize there are many people working hard every day to become more efficient in the delivery of healthcare services by leveraging technology and creating smarter buildings, we learned the hard way, during the pandemic, that there is more room for improvement. In addition to improving processes and communication in patient care, by improving delivery models for construction of facilities, we can demonstrate increased speed to market and more flexibility in space that fosters better care and happier patients. Delivering better healthcare options and improving the patient journey is a big focus for all of us involved in the industry.

Remember Wayne Gretzky's philosophy of "skate to where the puck is going"? In the context of trying to predict where and how healthcare services will be delivered in the U.S., it is an incredible challenge to do so, much less with any certainty. This white paper provides information to hopefully aid you in considering your future strategy. Through interviews with 43 thought leaders from 32 organizations, we heard diverse ideas, some like-minded strategies, and new revelations to consider which should help us better understand and embrace omnichannel (or seamless) delivery of healthcare. We need to do what we can to increase our chances of success for delivering better healthcare to exceed our patients' expectations. More importantly, deliver more cost effective and high-quality health outcomes. **One thing we can all count on: MORE continued disruption.**

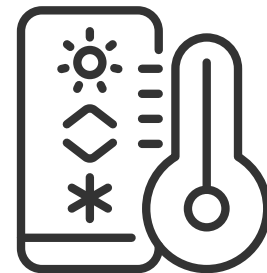
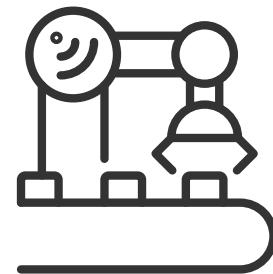
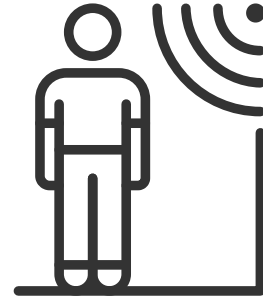
Collaboration. If I had to pick one word that best sums up the healthcare industry in the past two years, collaboration comes to mind. For years, hospital leaders have been focused on how to improve leveraging data to drive planning but now, through more collaboration with partners, the focus has shifted to not only monetizing that data but realizing that by driving a better patient experience and enhancing productivity, monetization is realized. From patient flow to staff efficiency to managing risk, leaders are using metrics and making better informed decisions. The last few years were tough with significant challenges. According to the American Hospital Association, hospital losses from the pandemic exceeded \$320 billion. None of us want to see the healthcare industry go through anything like that again as the total impact to our country's health and economic well being is still unknown.

More disruption ahead. In Bain & Company's Global Healthcare Private Equity 2022 Report, it was noted that Walmart plans to install 4,000 primary care supercenters by 2029 and Walgreens plans to open 500 primary care practices in the next 3 years. And while care continues to migrate out of hospitals, this has not slowed the projected 6% growth, according to AIA, in the design & construction of healthcare facilities. The demand is there – just the look & feel must definitely change.

In the past 5 years, we have seen an aging population in combination with more demand for healthcare services due to the prevalence of chronic diseases. Concurrently, we have experienced growth in use of mobile devices by not only patients but nurses, doctors (called clinical mobility), and growth of artificial intelligence, telehealth, remote patient monitoring, and emergence of more tech-savvy patients in all age groups. While we all have been hearing about the "consumerization" of healthcare and "the harnessing of healthcare data" and more recently omnichannel's entrance into Healthcare, it really does seem like 2022 and 2023 might be THE transformative years that can catapult us forward at a much faster speed.

Key themes consistent in thought leader responses:

- **PATIENT CENTRICITY – ONE STOP SHOPPING**
- **TECHNOLOGY PLAYS KEY ROLE BUT HUMAN TOUCH MATTERS**
- **WORKFORCE CHALLENGES**
- **MORE AT HOME SERVICE; HIGHER ACUITY AT HOSPITALS**





WE ASKED...

1) What are 3 key issues leaders should consider prioritizing (in context of Planning, Design, & Construction / Patient Experience / Health Outcomes) to address the multiple avenues healthcare services will be delivered in the next five years?

3) Disruptors in the form of Private Equity (forming partnerships and alliances), Smart Technology, Flexible One Stop Shop Facilities (health parks) in combination with lessons we have learned from the pandemic are forever changing how healthcare is delivered. Are their current protocols or mindsets we need to dramatically shift in order to more positively impact the patient journey and health outcomes?

5) In regards to focusing on Healthcare Facilities and Technologies that improve patient experience and outcomes, sustainability and environmental awareness are critically important issues. Health is a central concern and indicator of sustainable development and productivity for our country (and the world). Do you think leaders within healthcare need to rethink their approaches to result in positive impacts to planetary health and what might this look like?

THEY ANSWERED

2) With new models of care emerging (think Amazon Care), what do you think the impact will be to hospitals (Facility Size, Locations, Services) and physician groups in the near future?

4) For Consultants: How can you address Omnichannel Consumerism to support your clients/owners?

For Hospital Owners: What can the consultants you work with do better to help your Facilities Team to more effectively impact Patient Experience?

HOSPITAL LEADERS

We believe there is an unbreakable connection between the health of our planet and the health of our people **Lloyd H. Dean CEO of CSH**



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Q1

What are 3 key issues that leaders should consider prioritizing (in context of Planning, Design, & Construction / Patient Experience / Health Outcomes) to address the multiple avenues healthcare services will be delivered in the next five years?

AdventHealth:

The next generation of the healthcare consumer is looking for venues of care that are affordable, seamlessly connected, and convenient. In planning to address care delivery models, leaders should consider spaces that speak to lifestyle health and incorporate elements of modern design much like what you see at luxury hotels and restaurants. We know that consumers are obsessive about experience with the rise of neighborhoods that incorporate farmers markets and modern spaces. To drive health outcomes and patient experience, we must consider building out spaces to incorporate natural lighting and modern touches that do not look like the traditional hospital setting. We must bring elements of the consumers' everyday life into the health care setting.

Children's Health:

Technology will continue to play a major role in the delivery of healthcare, whether it involves the diagnostic and measurement of treatment for producing desired outcomes or providing patients and their families with the ability to initiate, manage, and control their entire healthcare experience from beginning to end with their handheld mobile device.

Continuous changes in the healthcare delivery process mandate the need to plan, design, and construct the most flexible healthcare facilities possible.

CommonSpirit | Dignity Health:

Research: CSH Research Institute is focused on connecting hospitals, patients and physicians with the very latest medical advances, technology, treatments and procedures. It benefits our entire healthcare enterprise and advances our larger mission to provide high-quality affordable health care.

Innovation: CSH is committed to innovation. Virtual care is an example. This is a convenient way for patients to stay connected with providers outside of our clinic and hospital areas.

Climate Goals: CSH has commitment to achieve net-zero greenhouse gas emission by 2040 and an interim target to cut operational emissions in half by 2030.

Lee Health:

The pandemic & baby boomer retirements have changed and disrupted the pace of growth and migration into certain states, including Texas and Florida. This has created pressure on provider capacity in terms of facilities and staff. We are expanding both outpatient and inpatient services as well as expanding telehealth and at home services to meet the growing population demand.

Mayo Clinic:

First: "Transparent technology" in the healthcare environment (meaning: intuitive, user-friendly, HIPAA-compliant, adaptable, expandable). Telehealth is not the disruptor it once was and as it evolves it will require ongoing focus as a patient-visit forum.

Second: New KPUs to determine the space that supports patient care coupled with technological advances. Care team spaces; number of exam rooms per panel. Population to service to staffing.

Third: The aspects of design that nurture hope and healing. What was once considered unmeasurable has grown to be increasingly deliberate in our environmental design decision-making above and beyond functional design: Natural light and views, acoustics, and art, to name a few elements of the built environment which impact health. These decisions not only support our patient's needs; they also contribute to the best work environment for our staff.



Nicklaus Children's Health:

Inclusivity and cultural sensitivity making sure that spaces are not only ADA compliant but also are designed to keep a diverse patient population in mind (Braille signage, multilingual way finding, unisex bathrooms etc).

High degree of personalization of the patient experience and pt journey, flexibility of design and scheduling, ability to personalize in patient rooms, options to have a hybrid visit (telemedicine and in patient)

Have a population health focus. Collect data on PTS to better manage their health in an interactive way and have a focus on holistic wellness and lifestyle and also social determinants of health.

Novant Health:

In the next five years I feel like there are three primary issues: 1) how your organization defines access and whether access needs to be defined by physical locations 2) how your organization incorporates technology, whether you are utilizing tele-ICU, virtual visits, how providers using tele services will be accessing them, i.e. central location? In a clinic? and 3) Based on your location, how your inpatient beds are connected to your outpatient environment.

Stanford Health:

Patient and family focus – making sure they stay top of mind; Work life / health balance – staff and patient (convenience, hours of operations, travel distances); Flexibility / Sustainability of the facilities.

Trinity Health Michigan:

Primary Care Attribution and Coordination: We continue to adapt the physical layout of our facilities according to practical and payer-related drivers. Under value-based care, locations including the emergency department, urgent care or primary care sites have specific metrics and incentives tied to reimbursement. The key relationship for determining where a patient goes should center on attributed and accountable primary care providers who are guiding where patients receive which services. Relationships and trust between patients and their PCP's center around reliable forms of access to information and guidance.

Team-based Care: The team-based care approach for primary care mobilizes subject matter experts in medicine, pharmacy, care management, nutrition and mental health with services delivered at a local level. Outpatient facilities must include consultation areas for individual and group visits, focusing on a holistic approach that isn't necessarily centered in the clinical consultation room with a sink, examination table and provider desk. Warm, inviting areas, user-friendly virtual platforms and even kitchens for teaching are key to providing safe spaces and engaging interactions for warm handovers between clinical team members and a positive patient experience.

Risk Assessment Tools: The screening and coordination of a patient's care and services are critical to right sizing services and physical location. Accelerated by COVID-19, staff and providers accomplished many triage-oriented tasks in a virtual or remote environment that didn't require face-to-face interactions. Validated tools for assessing risk in various settings allow a more targeted means of when and where various interventions should occur. In addition, risk scores for a population inform payers on how well a network is addressing the needs of the patients and how resources are distributed and, in turn, reimbursed.

University of Miami Health System:

Budgets – In the foreseeable future, the interests to expand footprint will continue to compete for dollars to maintain existing infrastructure. Rationalizing real estate in a way which integrates the Facilities, Patient Experience, and Health Outcomes teams will be critical for sustained success.

Workforce – Over the next five years, identifying and building a pipeline for the healthcare facilities workforce will become increasingly important. As people with institutional knowledge exercise the option to retire, the replacement of the workforce and transfer of skillsets will need attention. Wages, work from home, and skills development will need to be prioritized highly.

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Navigating healthcare is a challenge. At University of Miami Health System, our culture ensures all patient encounters enhance each patient's experience across the continuum of care.
”

Patrick Casey, AIA, ACHE
Vice President, Facilities Operations & Planning

Footprint – Over the next five years, understanding and defining the future models for care delivery is important. Centralized, decentralized, and hub-and-spoke type models will need to consider how technology is changing the way care is delivered. Those changes will impact business planning. Facilities leadership expertise will be a critical component of those conversations.

Futureproofing of healthcare facilities is essential to maximize the potential for adaptability and reuse given the rapid rate of change that is only expected to accelerate in the healthcare industry.

University Health:

Strategic Planning - Having a strategic plan that ties acute, ambulatory and transitional care together is our first priority. Patient care cannot be put into silos since one will have an impact on another. Understanding we are providing the right care where the patient has access when they need it will help us serve our community. Ultimately this will provide better patient satisfaction and favorable reimbursement. COVID caused health systems to consider things like mass care (vaccine and testing sites, virtual visits, isolation areas, etc.) and the introduction of employees desire to work remotely. We will need to figure out what will be the new normal, and how to use our buildings and space to be efficient and flexible to meet this new normal.

Patient Connectivity – Connecting to the patient and understanding their journey must be understood. Our ability to adapt to the Omnichannel approach in healthcare will drive our success. As new generations age, expectations on how one receives care changes. Telemed visits exploded over the last two years. Now we are implementing Hospital-at-Home. We have to design our systems so our patients

feel connected and they are receiving compassionate care in a form that makes them comfortable. We must improve the patient experience overall.

Patient Access/Flexibility – As a public health entity we must provide accessibility to healthcare for all care models. Again it is the right care when and how the patient needs it. Understanding how we can keep a patient through the continuum of care whether it is single diagnosis or a lifetime of care. Our facilities have to address the needs of our patients and provide flexibility when care needs change. We must ensure value and demonstrate good stewardship of our public funding since we are a government entity. Our goal is to dive deeper into community-based care and being closer to patient homes.

UNC Health:

Patients have **choice**. Facilities need to be customer focused from the moment patients arrive (e.g., easy/ friendly check in, convenient parking, soothing care environments) and even before arrival (e.g., ease of scheduling) in order to maintain loyalty with consumers.

Smart technology usage (and **decreased waiting spaces**) are a trend that will continue. Patients want to check in, arrive/go to an exam room, and be seen quicker. Designing for this change is pivotal to maintaining a positive customer experience and decreasing waste in health care facilities.

Proper planning, design and construction requires a close partnership between **construction and operational leaders**. A successful new clinical building requires that operational leaders be involved in the entire process, and that the building can be operationally successful.



Q2

With new models of care emerging (think Amazon Care), what do you think the impact will be to hospitals (Facility Size, Locations, Services) and physician groups in the near future?

AdventHealth:

I believe we are in a position to decrease our hospital footprint and move more towards an outpatient one stop care model. During the pandemic, virtual care became the main source of care for most patients. I believe this will continue and we will start seeing virtual care as a first priority, complemented with brick and mortar one stop shop building for consumers to receive core services such as rehab, imaging, and lab work. These buildings will need to incorporate a lifestyle healing impact with events such as nutritional counseling, exercise classes, and mental health talks much like our Health Park model.

Children's Health:

The long-term impact of these new entrants into the healthcare marketplace is not clear. Most healthcare organizations already understand the need to deliver a range of high-quality and cost-effective healthcare services in the local community where their patients reside.

CommonSpirit | Dignity Health:

Healthcare is moving towards a patient centered model, where patients have a choice and can shop for healthcare on Internet. During the pandemic, many patients experienced using virtual visits and telehealth and many of them will continue to use them. We must partner with physician groups to utilize the available building spaces for a better healthcare delivery model.

Lee Health:

Care will continue to shift to outpatient settings, Thus, the impact to hospitals will be care for the sickest of patients. Growth of ambulatory surgery centers, diagnostic centers, telehealth, and at home hospital models of care will, over time, shift the role and size of the hospital we know.

Mayo Clinic:

The new models of care will likely have the least impact on how we address highly complex cases using our own Mayo Model of Care. This is based on an integrated group practice and seamless delivery among our three shields of:

Practice, Research, and Education. Our interest in making this care more widely available has led us to pursue new global partnerships. At the same time, we continue to invest in our existing infrastructure of care centers.

Nicklaus Children's Health:

Newer models of care will prove to be a disruptor in healthcare delivery. There will no longer be a need for large hospital and office spaces in a central location rather many smaller healthcare hubs or mobile facilities making care more accessible and convenient with a lot of focus on telemedicine. The surgical care will also continue to shift to the outpatient locations as wells which will impact the inpatient surgical volume and revenue.

Novant Health:

Emerging care models will create the need to evolve but I do not believe there will a significant change to facilities and services we provide.

Stanford Health:

The role of access and coordination (how do the primary care networks funnel into or respond to existing healthcare delivery models). Response to new competitive models – quick convenient community centers, higher tech driven paths. No one ever thought that we would have an urgent care center in the midst of an academic medical environment; but we do. It has worked successfully but AMC facilities have been slow to respond.



Healthcare in its roots is a consumer business," Fernadopulle said. "Patients and consumers are free to vote with their feet. If someone builds a better mouse trap, they're going to walk."



Dr. Rushika Fernadopulle, Chief Innovation Officer at One Medical

Trinity Health Michigan:

Virtual or primary care services need to be linked to the higher cost centers of specialty consultations, hospital and post-acute facilities for information sharing and coordination of care. We are otherwise at risk of compartmentalizing medical services into siloes that don't talk to each other and miss out on the critical handovers between care providers. Multi-specialty physician groups and affiliated practices, through defined networks and relationships, ensure professional capabilities are tied to appropriate use and high value care. In turn, the payer environment and contracts need to reward performance across the entire continuum of care for reducing costs, promoting quality and ensuring a positive patient experience

University of Miami Health System:

To be determined. One thing we learned from COVID-19 is technology has allowed alternative ways of delivering care. The virtual care component is here to stay. The question is how will medical leadership work through new capabilities and old footprint to best position their systems for success.

University Health:

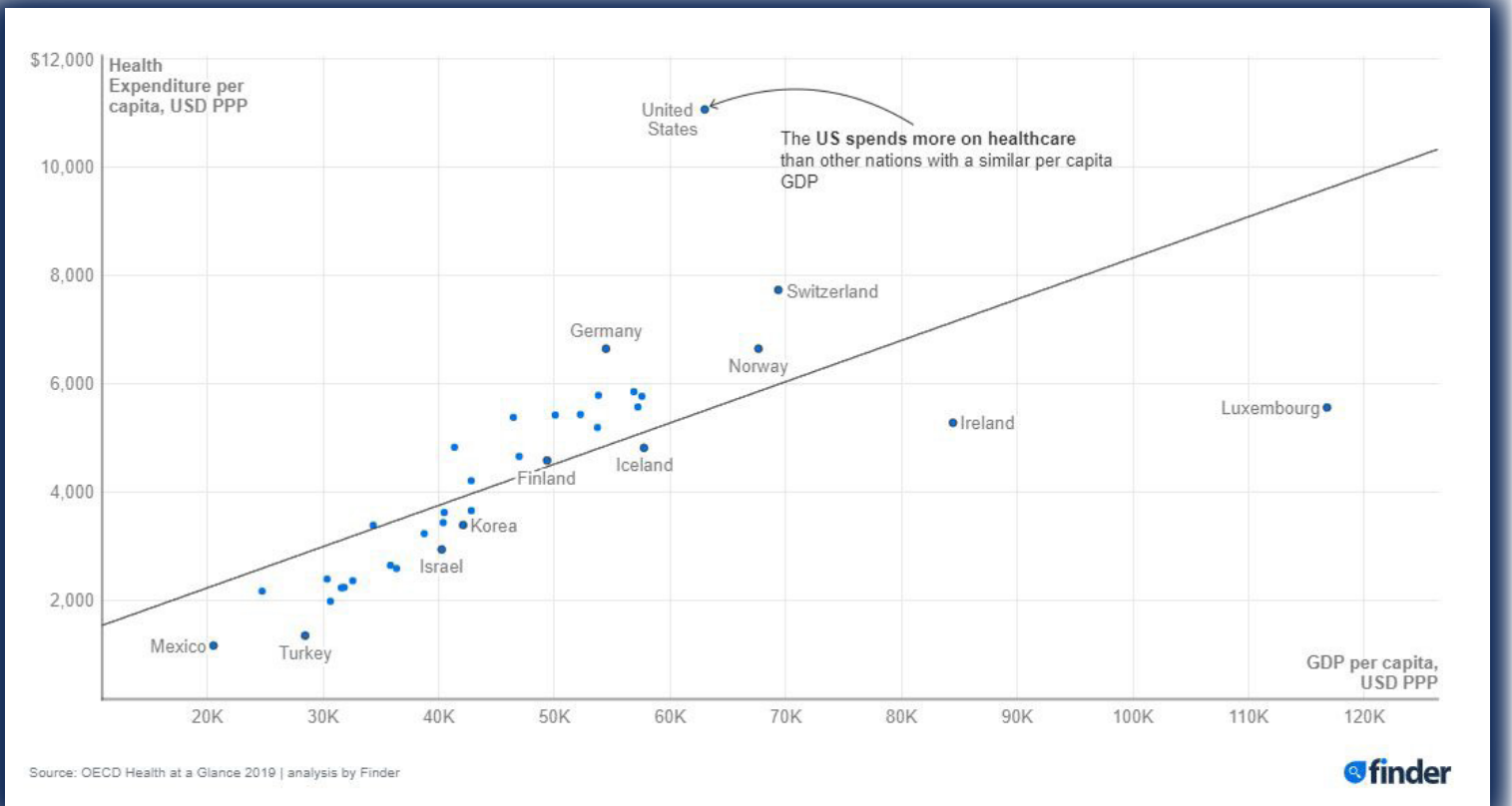
Until there is a mindset shift in people to lead healthier lives, I am not sure there will be much of an impact on hospitals. Emerging models of care will help but as population increases and the lifestyles the US has become accustomed to will necessitate the need for hospital care. While access to care is one of our goals, patient census

is not decreasing. There is the need for community based hospitals to provide acute care without being in a medical district that many times is confusing and unnecessary for most patient needs. Systems need to manage the different acuties of care better so patients are receiving what they need when they need it, close to home. With population growth in the State of Texas, healthcare systems will be reaching out further into their communities than ever before. If Amazon were to enter the world of retail pharmacy, it would be a game changer. They could leverage their size and buying power as well as their internal distribution system to make it hard for other competitors. This system has the potential of really disrupting DME distribution and make the promotion of hospital-at-home services more impactful than it is today.

UNC Health:

Demand for high acuity hospital care continues to increase in our region. However, where we are seeing dramatic changes is in the outpatient environment. New models of care will require us to be more strategic about where outpatient/physician group practices are located (high growth markets) and how care is delivered in those settings (e.g., leveraging self check in, utilizing medical scribes/dictation to increase the physicians' time with the patient). Clinic proximity to where they reside is a key driver for establishing (and to some extent maintaining) a relationship with new patients.

HEALTHCARE COSTS PER COUNTRY



Q3

Disruptors in the form of Private Equity (forming partnerships and alliances), Smart Technology, Flexible One Stop Shop Facilities (health parks) in combination with lessons we have learned from the pandemic are forever changing how healthcare is delivered. Are their current protocols or mindsets we need to dramatically shift in order to more positively impact the patient journey and health outcomes?

AdventHealth:

I am proud to lead the design thinking and concept building of the one stop health care model at AdventHealth Health Parks. We are reimagining the health care experience by providing core services that are crucial to health such as lab, imaging, and physical therapy along with primary care and specialties all in one facility. The beauty of this facility is that all services are connected using a single EMR and a consumer can receive multiple services in one day along with having one-bill instead of receiving multiple bills with is a disconnected feeling for consumers.

Each consumer that walks into these completely paperless modern facilities are greeted by engagement specialists that are hospitality trained and know every consumer personally before they walk in the door. Along with interacting with consumers by having one central check in area for all the business units in the building, each engagement specialist can escort patients to their destination and help them plan their care journey. The mindset of the traditional medical office building must change into understanding that consumers want a connected experience and an environment in which all of their needs are personalized just as if they are going to their local community farmers market or high end hotel.

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Good patient experience provides better clinical outcome, better reimbursement, and higher return on investment

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Skanda Skandaverl, MBA, CHFM,CHC, FASHE
CommonSpirit/Dignity Health

Children's Health:

I think the pandemic served as a recent example where healthcare providers needed to quickly pivot to adapt and accelerate on-going or planned initiatives to continue providing services, but perhaps differently than before. One obvious example includes the rapid expansion and adoption of telehealth services, etc.

CommonSpirit | Dignity Health:

The pandemic has taught us some great lessons and created opportunities. Physicians and patients have learned to use virtual visits and telemedicine. This platform offers a convenient way of connecting the patients with their care-giver without leaving their home. While virtual care will not replace all our healthcare needs, it opens more opportunities in the future.

Lee Health:

The model of care in the future will be less dependent on a place and more dependent on technology, real time information (wearables) and medical collaboration through telehealth portals. Prevention and detection will be at the forefront of healthcare thinking.

Mayo Clinic:

By remaining true to our core value that “the needs of the patient come first,” we have continued to provide world-class patient care despite disruptive forces. As a not-for-profit academic medical center, we reinvest positive Net Operating Income to address future care needs in addition to current patients’ needs. Our model provides for consistent positive patient outcome (and satisfaction) without the challenge of the financial aspects inherent to the Private Equity model. Our capital project decisions reflect shifts in the location of care delivery. Most recently, care at home has increased, while facilities supporting complex care grow at our established sites.

Nicklaus Children's Health:

One of the biggest shifts that healthcare will need to make is putting themselves in the patient’s shoes. The high out of pocket costs will become a big disincentive for patients to seek care and with PE backed firms focusing on cost reduction, they will be positioned to entice patients with virtual care or less expensive options. PE firms will also look to create efficiencies and economies of scale through

public private partnerships which may translate into more pt convenience and better access through home medication delivery, health parks and hubs etc. Health care systems should be prepared to contend/compete with this.

Novant Health:

There is a continued need to make the process easier, I do believe there will be a move toward more “one stop shop facilities” that are convenient for patients to receive multiple services in on location as opposed to driving across town for the same service.

Stanford Health:

Yes. An example would be within access points where traditionally, a patient’s PCP makes an in person visit referral (and you may wait 6 months to get in) – telemedicine has changed that. First visit is now within days; thereby improving speed and accuracy of initial assessment. Now, a patient from a distance can secure x-rays, etc. all locally and get a more reliable consultation on a rapid schedule.

Trinity Health Michigan:

Working with patients and loved ones, we need to balance what capabilities can be accomplished via virtual, asynchronous communications and telehealth solutions versus face to face or in home interactions. As such, the convenience of technology may allow some healthcare to be delivered remotely but the evidence suggests some care is less effective and even inappropriate from a resource perspective. Granted, some services and counseling typically rendered inside a designated medical facility can now be accomplished via targeted media campaigns or personalized reachouts from healthcare staff. Other protocols, however, still support the importance of in person interactions to ensure safety and avoid unnecessary tests, procedures or medications.

University of Miami Health System:

Integration is key. Changing technology and budgetary pressures are challenging the existing siloed infrastructure and revealing an opportunity for health systems to function as a holistic unit which leverages the expertise of every component which impacts the balance sheet to deliver superior health outcomes.

University Health:

We are trying that now. How do we create accessibility to healthcare for all? Things such as Hospital at Home, Telemed, community based medical homes, community hospitals, free-standing emergency and urgent care centers are all ways we are trying to get to the patient closer to home. The pandemic has taught us how to change delivery models and space quickly. Since we are unable to provide all service at every location, we need to educate our patients on where to go and why. There also has to be more consistent education to shift how people care for themselves and those around them. We have become a society that want things immediately and we are constantly on the go just like the foods we eat. Providing different avenues to healthcare will assist the patient, but how do we help prevent the patient from needing our services in the first place.

UNC Health:

The pandemic spurred on telehealth, but the technology is here to stay. The advent of new high tech care models (including virtual hospitals, new at-home health technologies) are changing the delivery model and can be a powerful tool for improving health outcomes and patient customer experience. We need to stop looking at virtual health as a last resort, and start considering it as an equally valuable option for some patients and some clinical situations. Many providers are also happier with the virtual platform as it allows them to discuss sensitive topics (e.g., mental health) easier with patients who are more comfortable talking in that model of care.



Q 4

What can the consultants you work with do better to help your Facilities Team to more effectively impact Patient Experience?

AdventHealth:

Think more about how consumers interact with spaces more than creating a cookie cutter standard. Creating more areas of natural light that aide to stabilizing a patients circadian rhythm, and designing furniture aspects that are typical of what they see in their homes will aide to the healing process of a patients diagnoses.

Children's Health:

Architects and Engineers need to help healthcare organizations ensure their commitment to patient and patient-family centered designs while also providing high-quality spaces for the providers and staff to help keep them as safe and comfortable as possible by focusing not only on the guest experience, but also in the operations, efficiency, and staff-interaction.

CommonSpirit | Dignity Health:

Good Patient Experience is vital for our survival in healthcare therefore consultants should provide us with patient-centered programs and building design. Our buildings and the layout must have friendly environment from the admission to discharge and support the workflow for the clinicians. Good patient experience provides better clinical outcome, better reimbursement and Return on Investment.

Lee Health:

We are in a transitioning period, still providing care in current state but need to think about what care will look like 5 to 10 years out. This is important as we shift resources and capital contributions.

Mayo Clinic:

Our physicians are called "consultants", emphasizing the role of collaboration. This is a tradition first begun by the Mayo brothers and the Sisters of St. Francis. It's in all we do, including our work with design consultants: a collaborative teamwork process. Each of us brings our unique skills to the table. Our design partners need to join in our commitment to continual progress and be prepared to build on it. Tell us where our blind spots are. Acknowledge the depth of internal expertise that our facilities groups have on the design, construction, and operations aspects of projects. We expect these partners to engage with our in-house experts on the discrete projects that contribute to

the whole of our enterprise. In particular, we look to these partners to know current trends and future opportunities and how they will augment our delivery of the best health care. Bring your best team to the table.

Nicklaus Children's Health:

Consultants can help educate the facilities team on best practices and new and upcoming trends that can lead to an improved costumer experience

Novant Health:

Listen, push back, and question. It is often difficult to get consultants to listen. We have the data and know what our patients are asking for. On the other hand, we need our consultants to push back and question to ensure we build the space correctly.

Stanford Health:

Become nimble partners with the owner rather than "consultant". We really want to "think together" in a more collaborative way so as to reach more innovative solutions. Repeating what you just designed for the last hospital system is not innovation – it is repetition. There has to be a whole new rethinking of the supply chain. Reduce unique building systems and rely more on modular systems.

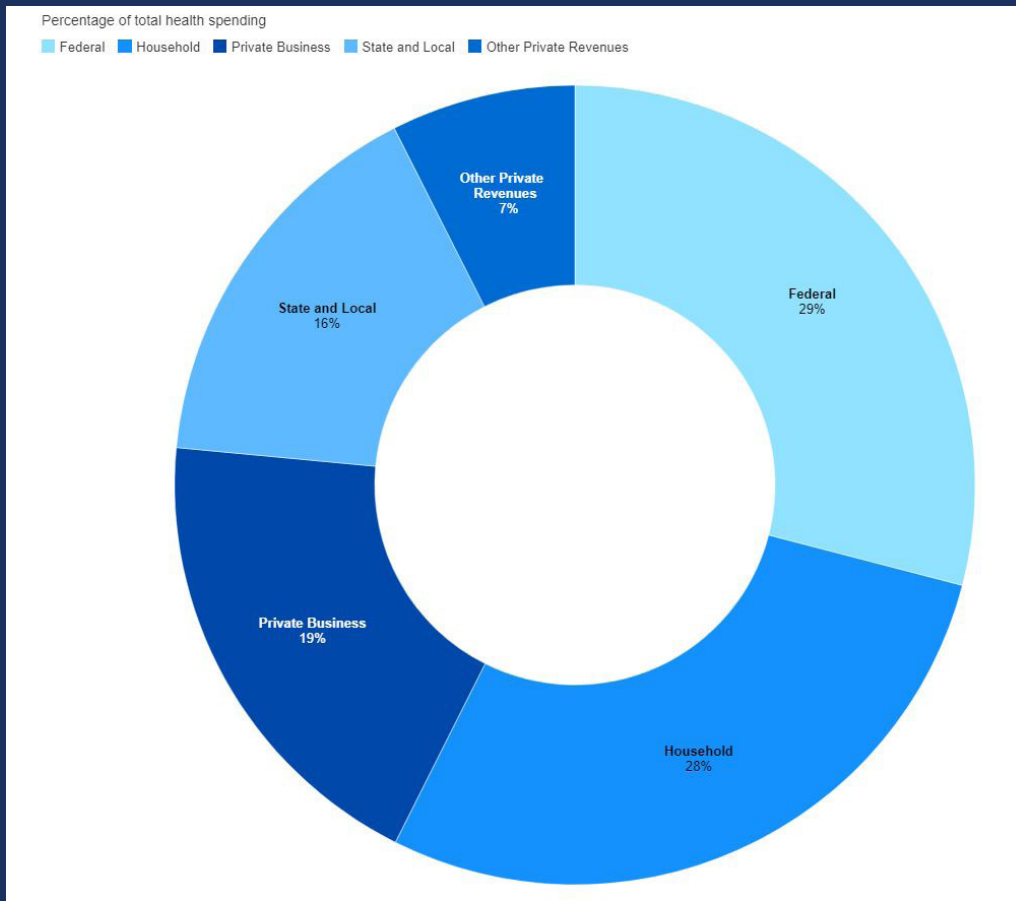


The mindset regarding the traditional medical building must change into understanding that consumers want a connected experience and an environment in which all of their needs are personalized just as if they are going to a local farmers market or high end hotel. Our buildings now incorporate a lifestyle healing impact with nutritional counseling, exercise classes, and mental health talks.



**Joel George MBA, MSN, RN
AdventHealth**

PERCENTAGE OF HEALTH SPENDING



Trinity Health Michigan:

The incorporation of data-driven decisions will further refine how the consumer engages with the healthcare system. So, looking for consultants that understand that is important. Due to COVID-19, the increased use of telehealth and access to information via portals has pulled patients deeper into the conversation around their health, wellbeing, and needs. The future of more holistic integration with patients' lives involves improving the sharing of information between compartmentalized components of the healthcare system and other community-based tools. The screening for and incorporation of social influencers of health into patients' care, in particular, will help better inform where there are opportunities for the better receipt and delivery of medical and social services..

University of Miami Health System:

It would be helpful to communicate from the perspective of the patient, how alternatives impact both first and sustainment costs, and orient the partnership in terms of win-win outcomes.

University Health:

Prove performance. When beginning planning and design we discuss our typical goals usually consisting of efficiency for the patient, staff and facility and the outcomes we expect with patient satisfaction. Having data that supports design decisions and follow up on the backend that proves we are performing after occupancy. After living in space we almost always find things that could have been designed or constructed differently to improve the space. But, it seems we never really go back to understand what causes us to not meet our goals. Is it design or possibly process? Even though sound decisions were made at the time of design based on best practices and process, I believe we should take time post occupancy to measure what we planned and ensure we are meeting our goals. What can we do to continuously improve upon the current state?

UNC Health:

Bring forward best practices implemented in other health systems. Especially those with proven, evidence-based impacts on measured outcomes, including customer experience, health/wellness for patients and staff, and productivity.

Q5

In regards to focusing on Healthcare Facilities and Technologies that improve patient experience and outcomes, sustainability and environmental awareness are critically important issues. Health is a central concern and indicator of sustainable development and productivity for our country (and the world). Do you think leaders within healthcare need to rethink their approaches to result in positive impacts to planetary health and what might this look like?



AdventHealth:

Healthcare leaders must look for ways to become more green focused. The traditional hospital running on diesel generators needs to change its approach to looking at battery and solar powered options. Not only will so create more efficiency and cost savings in health care, but it will also add to the overall air quality of the environment around us which in turn impact patients everyday.

Children's Health:

Not necessarily. Most healthcare executives understand the connection between healing and nature. Therefore, many project designs already incorporate sustainable and biophilic features and connections to support this trend. However, the importance of sustainable designs is only expected to increase over time as more consumers will start to demand tangible results such as carbon neutrality, net zero or energy+ facilities, etc. that not only maximize patient, visitor, and staff comfort, but also reduce the overall impact of operations on the environment. Industry regulators are also starting to insert themselves into this area beyond the traditional accreditation framework.

CommonSpirit | Dignity Health:

Yes, we must consider the planetary health in all what we do. At CSH we have the commitment to achieve net-zero greenhouse gas emission by 2040 and an interim target to cut operational emissions in half by 2030. Virtual visit programs help environment, it is an important part of our sustainability efforts. It helps the environment by reducing greenhouse gas emissions. CSH remain committed that all our new infrastructure will meet the sustainability requirements.

Lee Health:

I believe it is inherent in our thinking and planning. However, the current codes in place that regulate hospitals are fairly rigid in their requirements and limit our options. Saying that, the industry continues to look at options to meet both code and environmental pressures placed on the built environment.

Mayo Clinic:

Just as aseptic surgery grew out of a realignment between surgery and laboratory science some 150 years ago, contemporary advances in the nature of human health care continue that conversation. With the recognition of healthcare as both a vital and an energy intensive market segment, our leadership has embraced the challenge of environmental awareness. A core Mayo value is stewardship of our natural and human resources. Sustainability is considered in all of our decision making. As research improves knowledge of how the built-environment contributes to human health, facilities are able to respond and utilize that knowledge. We are committed to sustainability across the spectrum of the built environment: from our building systems infrastructure, through waste material disposal practices.

By owning and operating our own power plants, we can more directly manage the size of our carbon footprint. Our power plants use a tri-generation approach to manage source impacts, and aggressive preventive maintenance of our existing building stock to reduce site impacts. This allows us to control one of our biggest cost factors while supporting the health of our surrounding communities.

Nicklaus Children's Health:

Healthcare providers and healthcare systems enjoy a high level of trust with the public when it comes to health and environmental issues. Increasingly healthcare systems are focusing on population health and one of the drivers for social determinants of health are environmental factors such as clean water supply and air quality etc. Healthcare can no longer be delivered nor health improved in a vacuum. Healthcare systems need to create environmental awareness on water utilization, sustainability, carbon footprint, global warming and the depletion of earth's natural resources.



We need to stop looking at virtual health as a last resort and start considering it as an equally valuable option some some patients and some clinical situations.



Cameron Ebron, MPP, UNC Health

Novant Health:

Yes, healthcare needs to reevaluate its work and stance on environmental sustainability, however, depending on your location, it is not as easy to implement.

Stanford Health:

Yes. It would be a deep understanding of sustainability within the unique environment of created by healthcare. There have been an enormous amounts of lessons learned. All those beautiful bamboo floors are now in the dumpster. Example: A lot of manufacturers of finishes, flooring, furniture, etc. went on a sustainability directive to create biodegradable materials that are entirely inappropriate for healthcare. We are cleaning these items / products and they do not hold up.

Trinity Health Michigan:

Sustainability is a key tenet in our organization for physical plant management but the investments we make in our employees and patients is critical. For the human impact especially, we have collaborated with community members and organizations to find opportunities for partnerships. We have charged subject matter experts from multiple departments to form comprehensive teams centered around access to food, wellness and lifestyle choices including dieticians, mental health counselors and public health advocates. After screening for various social influencers of health, such as food insecurity and transportation needs, our footprint of medical care translates to leveraging other entities such as farm share programs or tailored ambulance services.

University of Miami Health System:

Yes. Healthcare leaders should rethink their approaches. Due to its delivery mechanism and 24-hour per day service model, healthcare will remain a large consumer of energy. However, there are many opportunities to re-imagine sustainability in the context of creating a healing environment. This does not just mean responsible use of

energy, but it also means the experience of the patients and the staff. This could take the form of a comprehensive vision from the C-Suite, actionable goals and metrics from executive/subordinate staffs, and sustained support from the board.

University Health:

There is a delicate line between providing healthcare and the nurturing the health of the world. Biophilic design makes sense to connect with nature. Studies show there to be many healing qualities when connecting natural light and elements of nature. While design and the built environment have been leaning this way for some time now, it does not prevent our community from needing healthcare. Our patient populations need to be educated on how to prevent health issues. We do things in our everyday lives that can improve the welfare of our bodies and the environment in which we live and receive healthcare. Whether it is the food we use to nourish our mind and body, to the things we do to care for Earth such as planting trees and recycling. Providing sustainable facilities that care for our patients is a priority for our health system. Minimizing energy and water use, material waste and recycling will have an impact on the earth for future generations. The balance is creating this environment without increasing the overburdening cost of healthcare. Healthcare costs are at the top already for those in the US and we have to figure out how to reduce that.

UNC Health:

A definition of sustainability that I come back to often: *“Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their needs.”* Brundtland Commission 1987 report *“Our Common Future”*

As new building codes or laws are introduced in the construction industry, they can directly affect sustainability. These building codes are inherently good, however they can have unintended consequences. For instance, as the code requires that patient room size increases, the overall building footprint increases and a greater power/utility system is needed to run the facility. However, with newer construction, building systems implemented reflect enhancements in the industry and are increasingly more efficient than older systems. Newer buildings can reflect more efficient design (as we learn more), leading to decreased waste.

Sustainability in health care construction is a balance. Creating spaces using more sustainable building materials, efficient infrastructure systems and space design, and that embrace wellness and healing (inside and outside) should be the standard.

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Q1

What are 3 key issues that leaders should consider prioritizing (in context of Planning, Design, & Construction / Patient Experience / Health Outcomes) to address the multiple avenues healthcare services will be delivered in the next five years?

BSA:

Human experience is a compilation of virtual and physical interactions. As a result, healthcare leaders should prioritize the following issues:

Embrace a paradigm shift where the consumer is not going to a place to receive healthcare as an event, but healthcare is coming to us and is a continuous part of everyday life. Consistency – ease of access which is one of the primary generators of an omnichannel delivery should also lend itself to consistency of experience. The ability of stakeholders – patients, families, caregivers, and others – to gain access consistently and reliably to care and information on care will be critical.

The front door has shifted to digital rather than physical so the seamlessness of the digital world with the physical and the way omnichannel delivery straddles both while supporting each will determine use and success.

A healthcare interaction once begun will extend virtually into everyday life creating interactions that are preemptive and proactive rather than reactive. The whole-person experience will rely on the ability of the healthcare institution to weave together the physical and digital. The ability of new channels of delivery to stay resilient in the face of the unprecedented, just as with traditional models should be a priority. Cyber security, digital and electronic infrastructure impacted by natural disasters, nascency of blockchain and access in underserved areas will continue to be challenges.

HKS:

Flexible Care: Health equity and global public health concerns shed light on our weak systems in recent years. Investment in layered levels of adaptability, flexibility and strategic service placement in the community allow greater access.

‘Phygital’ experience: defined as the convergence of physical and digital impressions. Patients will expect a seamless health experience from the digital front door through their in-person health encounters.

Operational Efficiencies: Designing and planning based upon future operational objectives. Embracing strategies which leverage computation, artificial intelligence (AI),

predictive analytics and other emerging technologies which will allow for realistic capital budget planning based upon future constraints. An example of operational insight for the design and planning of facilities would include consolidating outpatient/inpatient surgery strategies. In addition, strategically providing spaces not just for patient well-being but caregiver respite is critical to alleviate provider and caregiver burnout and improve employee retention.

IMEG Corp:

First, the most important is the rising rate of staff shortage and burnout. We must challenge the PDC process to aid in addressing this serious concern. Promote public health by embracing strategies to remain healthy both at the home and at the care facility. The built environment must play a role in the Quadruple Aim. Second, Healthcare providers need to embrace the continued transformation of technology and ensure it is part of their strategic plan. Patient consumerism continues to evolve, and the reliance of technology is going to continue to drive change and the expectation around both the patient and caregiver experience. There is always going to be someone that is going to be doing the next best thing or embracing the newest technology.



Leaders need to think about the “Journey of the Patient” from before they arrive at the hospital till after they leave the hospital. Hospitals not only need to create a hospitality environment which might be intermediary stop in their journey but also upgrade to latest technologies.



**Suraj Soudajar MS, MBA, LEED AP
IMEG Corp**



Leaders need to think about the “Journey of the Patient” from before they arrive at the hospital till after they leave the hospital. Hospitals not only need to create a hospitality environment which might be an intermediary stop in their journey but also upgrade to latest technologies. So often, it happens that hospitals put in “old toys” in this shiny new building because they went over their allocated budget. Patients notice “old toys” even if they are in a position to not complain about them. Hospitals also need to plan for new equipment as they plan to physically upgrade their facilities. Also, they need to think about their digital strategy to connect with their patients, be it telehealth or provide access to patient charts on an on-demand basis.

LS3P:

We believe that the 3 key issues for prioritization are Planning Flexibility, Technology Adaptability, and a Return to the Basics.

Planning Flexibility: For MOBs and hospitals, the challenges of the pandemic, and other natural events of the past few years (such as hurricanes, snowstorms, and heatwaves) have shown us that our healthcare buildings need to be ready for anything. This includes planned or sudden changes to healthcare delivery, staffing, HVAC, one-way building corridor travel, socially distant waiting rooms, multi-cultural access, seismic or wind hardening, vehicular access, and so on. The healthcare building of the future needs to be a flexible stage set for all of the dramas of life.

Technology Adaptability: From the hybrid OR to the cell phone, technology is constantly changing and improving healthcare delivery. The healthcare facilities we design need to be adaptable to rapid change (even within the five-year confines of this question). For example, the

pandemic has shown us that we need to be able to “flip a switch” to transition quickly from a typical exam room to a telemedicine or cybernetic capable/dedicated room, or to turn a standard patient room into a negative pressure COVID patient room.

Return to Basics: Lately in our office and with our clients, our team has been having discussions about the humanity of healthcare delivery. With Covid protocols, work from home, and increased use of telemedicine and tele-architecture, we are all starting to miss real human contact. We are going high tech without high touch. A recent article about “de-innovating” reflected on ways to re-infuse our work, our buildings, and our healing with human interaction. How do we integrate the common needs that we all share, such as viewing, hearing, and feeling nature; sitting in a naturally lit space; having face-to-face conversations with colleagues or clients; and so on? Whether it is through evidence-based design or our intuition and expertise as designers, it is time to ask ourselves what the best human experience should and could be, whether that experience is delivering a project or delivering healthcare.

NOVA:

What a healthcare ride it’s been the past 10 years, having twists, turns and loops everywhere while at the same time picking up speed. The next five years, and beyond, will no doubt experience an increasing pace. To meet demand and stay ahead of where this ride is taking us, the A&E industry must first Assimilate, second Adapt, then Act.

Assimilate: Leaders must understand the history, principals, and methods of not only where healthcare facilities and operational aspects have been, but also where that roadmap has taken us to now. This knowledge,

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The healthcare facilities we design need to be adaptable to rapid change. We need to be able to flip a switch to transition from a typical exam room to a cybernetic capable/ dedicated room. ”

Willy Schlein, AIA, LS3P

the positives and negatives, sets a solid foundation to where our vision and next steps are taking us. Embrace and be a positive influence on the coming change as there is no turning back.

Adapt: This industry has long been a major cornerstone of not only the United States but the world. Putting innovative ideas, thoughts and design into work plans followed by quality workmanship and construction in the field won't change, but how we get to that result may. Leaders of the A&E industry must continue to champion Integrated Project Delivery, as the participant pool has grown and will continue. Demand will warrant an increased flexibility and accountability in how we staff and navigate through the PDC Process.

Act: Make it happen. A quote from Tiger Woods foretells the path; “No matter how good you get you can always get better, and that's the exciting part”. These are exciting times, but if you don't already have it, quickly establishing a Lean Mindset and Process is critical. Leaders focus and attention, needs to be on quality of the care and the experiences of the customer, this throughout the entire healthcare process and operation.

Perkins Eastman:

We believe that the following will be important factors:

A more robust ambulatory platform, that can continue to allow the health system to remain nimble and flexible.

Move toward a higher level of acuity adaptable spaces within the Inpatient environment, and critical support services.

Continued investment in technological advancements (Inpatient and Outpatient)

TLC:

During design we focus on the users on how they use the space and not how the patient experience come into question most of the time.

I would recommend that leaders investigate getting users input for design and constructions of different type of spaces, understanding the patient perspective will make a huge difference.

The fact that we are looking ahead we must take into consideration the effect and future of a virtual world, not just in the patient room but also outside of the hospital with telemedicine.

VPS:

We see an increasing need for flexibility in all aspects of planning, design, and construction. New models of care will continue to drive the industry, which will require facilities to be adaptable to the ever-changing needs in service they provide. Interior spaces must quickly transform to fit the need of the facility or respond to changes in patient care.

Leaders should also consider team-based care with the patient as the consumer. Healthcare facilities must attract and retain patients; therefore, the patient experience will continue to become the most important aspect of care. Technology will also play a significant role in how care is delivered by increasing the connection of the patient with the care giver. Investment in new technology and treatment methods will be critical for facilities, as it will become one of the main drivers in a successful patient care experience.



Q2

With new models of care emerging (think Amazon Care), what do you think the impact will be to hospitals (Facility Size, Locations, Services) and physician groups in the near future?

“
The emerging healthcare models will utilize new technologies, which will disrupt the traditional delivery of pharmaceuticals, and leverage data to manage health.
”

Mike Davis, AIA, EDAC, VPS Engineering

BSA:

During the pandemic, populations shifted to more rural communities as the workplace changed to a “work from anywhere” mode through technological innovations. In a similar way, healthcare will be delivered from anywhere. As a result, the emerging model is hospital at home. Creating reimbursement models that support this structure will be a challenge. The need for hospitals does not go away but it means that there will be a higher level of acuity and care will need to be seamless regardless of the venue: hospital, home, virtual.

New models of care are not threats, but rather opportunities. They create agile entities with the ability to transform how we think about access to care and ease of access. Hospitals will and should be considering partnerships with such models to reduce impact of very low acuity needs by separating them from traditional hospital facilities. These are also immense opportunities to leverage the access to communities that Amazon or Google already have through partnerships, strengthening the ability to tackle population health in new and efficient ways.

Very often, the promoters of new models of care also have experience with technology like blockchain and cryptocurrency that can benefit the healthcare system as they consider integration of omnichannel delivery into acute and ambulatory facilities.

HKS:

New players in the market, rising levels of mergers and acquisitions and growing partnerships between health,

tech and community will see a rise in not just new facilities, but new building typologies and a higher level of adaptive reuse. The emerging care models will result in the aggregation of specialized service lines. Primary care services will further decentralize to integrate further within communities. These emerging care models will provide a more demographically customized, personalized data-driven care in a variety of media modes to reach wider generational groups within communication comfort levels. The impact of these emerging care models to existing facilities will depend on adoption. In contrast to recent observations [where patients present sicker], the hope is that the level of care in hospitals will become less acute.

IMEG Corp:

The impact of say Walmart Health will certainly challenge traditional healthcare providers to diversify their care models and evaluate strategic offerings based on need (e.g., imaging). There is still going to be a need for tertiary and quaternary care, that’s not going to change but I do feel like there will be more partnerships to allow for patients to be flexible in their care model while also having access to advanced care from a traditional provider when needed.

Holistically speaking there will two distinct paths for care which is provided – “Concierge Care” which is heavily reliant on the digital strategy – 80% digital to 20% in-person. It will include basic treatments from telehealth, to vaccinations, quick treatments like ear infections, etc. under one provider. These providers will be more nimble to changing demographics and their needs would be adapt quickly (i.e. Amazon Care, Google, etc.). The second path would be traditional path Urgent Ambulatory and Inpatient care which is available and provided by all big IDNs.

LS3P:

We are designing both smaller hospitals in growing community spokes, and larger hospitals in established urban medical destination system hubs.

For the smaller hospitals, we are seeing community-tailored hospitals that are focused on specific demographics such as mothers and babies in growing communities, or orthopedics in aging or retirement-focused areas. Because these facilities are targeted to specific demographics and



not the full spectrum of patients of a typical hospital of yesteryear, these hospitals tend to be smaller and service-line focused. The accompanying MOB's which work in concert with these hospital demographics are growing in size, with 75,000 to 125,000 SF MOB's being increasingly common. We are also designing several MOB's that are in the 200,000 SF plus range in larger system-wide markets. Consumerism from the patient perspective, and cost management strategies from the hospital system, are driving the shift to larger MOB's alongside with smaller hospitals.

For the larger hospitals, our urban academic medical and/or regional providers are building larger hub hospitals, or renovating and expanding existing destination campuses as collector hubs for the most acute patients and the highest population densities. We are also at a turning point at which mid and late 20th century hospitals are aging out of viability in terms of structure, mechanical systems, technology, and adaptability to new models of patient care and staff support.

A special note about rural hospitals: in our region encompassing the Carolinas and Georgia, we work with quite a few rural hospitals that are either independent or connected to larger academic or regional systems. In all cases, technology is the key to their viability. Patients and staff rely on telemedicine to augment, or even enable, outpatient care with connectivity for routine, psychiatric, and specialized care. With approximately 30 percent of outpatient care being delivered via cybernetics during the pandemic; we see this trend continuing and growing significantly, both on computers and on smartphones. On the inpatient side, imaging, follow ups, scheduling, billing, and the like are connectivity imperatives that are likely to remain and grow with linkages to system-wide resources over the next five years. Hence, while the hospitals may remain smaller, their technology infrastructure, as well as their outpatient support service footprints, will continue to grow post pandemic.

NOVA:

This new emerging wave of healthcare coming, which has been slowly gaining ground over the past decade, will rapidly increase the anchor and secondary facility approach, more commonly referred to as the Hub & Spoke model. With smart and advanced technology coming that will allow

patients to have real any time access to their medical records patients will have a choice, so the onus will be on healthcare providers to facilitate comfort, convenience, quality and even cost of care. Specialized care will also see a change whereas Group Practices, having related strategic multispecialty physicians and services, will increase. This type of approach will offer overall less financial risk from a business perspective while at the same time offer the same sought after patient comfort, convenience, quality and cost savings.

Perkins Eastman:

The emergence of Retail Centric health models has been advancing for over a decade. This was ground breaking at the time, but is now seen as main stream within ambulatory settings. Wal Mart, for example, has developed large multi-disciplinary clinics attached to several of their Georgia retail settings. This approach broadens access at a lower cost. The success of these models, including Health Hubs and Minute Clinics, have given rise to other innovative primary care platforms. We do believe that more specialized care and chronic disease management will still reside within the larger, community based health systems.

TLC:

Telemedicine saw a large increase in use due to the pandemic and saw the patients getting an understanding of how this will help them with time. There will always be the need for patient beds, physical examination, and imaging. However, this will allow the team to be able to control their schedule in an efficient way and have the time to do there round and emergencies accordingly. If you ever listen to patients in an emergency room the biggest complaints is the fact that they sit around and wait so much, a comfortable or more interactive ER waiting room also need to be taken into consideration.

VPS:

The emerging healthcare models will utilize new technologies, which will disrupt the traditional delivery of pharmaceuticals, and leverage data to manage health. For hospitals, the new model of care will be patient-focused within their communities. Patients are more engaged in their health when the service is part of their community, or relatable to them. Healthcare will need to be specific to each patient and not generalized, making it value-driven to prevent sicknesses and help patients get and stay well.

Q3

Disruptors in the form of Private Equity (forming partnerships and alliances), Smart Technology, Flexible One Stop Shop Facilities (health parks) in combination with lessons we have learned from the pandemic are forever changing how healthcare is delivered. Are their current protocols or mindsets we need to dramatically shift in order to more positively impact the patient journey and health outcomes?

BSA:

Many new players have entered the industry only to realize it is a very complex business. Consumers are savvy and sophisticated buyers of services that are willing to pay for value and very hesitant to place their lives in the hands of untested or inferior brands. The future is more of a partnership between current hospital players and new, innovative disrupters. Both need the strengths of one another to evolve the industry from reactive healthcare to proactive health.

In a world of acquisitions and mergers, partnerships with non-traditional healthcare delivery or assistance entities are more and more normalized. What is being missed is existing infrastructure within communities that can serve as access points for healthcare including convenience stores and gas stations, schools, laundromats and other spaces that are frequented by members of the community needing access.

Consider real estate and patient experience in the metaverse. In addition to telehealth, mobile applications and the use of virtual and augmented reality in treatment, investing in the virtual space that straddles the physical and digital is going to become more and more important.

HKS:

While many mindsets require evolution, chasing a faceless future can be futile, it is incumbent on us to design for an ever-changing present, focused on the ultimate goal: health and well-being for all. One way of doing this is to ensure facility design follows strategy by including demographic data, service design, operations, and experience. Only then can facilities become catalysts for transformation. If equitable access to healthcare increases, improvement to wellness care follows, including awareness of the social determinants of health and positive health outcomes.

IMEG Corp:

Digital engagement from all avenues will no longer be optional, it will be essential. Patients, families, visitors, caregivers, really anyone that interacts with the healthcare providers will only continue to embrace the digitization of healthcare. Organizations must adopt dynamic strategies to continuously embrace flexible models of engagement and most importantly care.

When the pandemic started, all healthcare systems had to forcibly pivot to “A digital strategy” when the pandemic hit, but it is still not fully resilient or fully adaptable as we start returning to normal. What the pandemic did was it caused fissures in healthcare delivery model, which was upended and consumers found different avenues to get the same care. For example, I could get vaccinations from my CVS store and didn’t have to take an appointment from primary physician or go to Hospital’s urgent care. My needs were met immediately when I needed it and no cost to me (since it was covered by my insurance). It was a win-win situation. CVS digital strategy worked, where they could give me appointments online and then I could get my care done on my own time versus adopt to Hospital’s schedule of their availability. It is not fully concierge care but it helped me control my care. The PE money will try and capture that market while the hospital try and adapt to this new concept. We constantly say “patient is center” of philosophy, but we force them to come out of their natural habitat even for the smallest of needs – maybe the mindset needs to how can we take the care to consumers

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With smart and advanced technology coming that will allow patients to have real any time access to their medical records patients will have a choice, so the onus will be on healthcare providers to facilitate comfort, convenience, quality and even cost of care. ”

**James Keeney, GC, CCC,
NOVA Engineering**

LS3P:

The pandemic permanently shifted our mindsets. Patient choice, consumerism, and flexibility are all encouraged with the ease and economics of technology. The patient journey can be accomplished on a smart phone or computer, replacing an actual journey to a distant facility, not to mention time lost for travel, waiting rooms, childcare, or time off from work before and after an actual visit. In the pandemic era and beyond, patients, family, and staff can avoid potential communicable disease exposures, further unburdening the journey. We are supporting our clients with budgeting and designing a variety of upgrades to support flexibility across project types: data centers, flexible telemedicine exam rooms, robust IT, electrical design accountability from the outset of projects, one-off projects tying into system-wide IT resources, and HVAC COVID upgrades. We are also prototyping clinics and departments for standardization of IT and flexible interchange from in-person to virtual care where appropriate, among many other implementations where patient choice is paramount.

NOVA:

Long before the pandemic, changes have been occurring in the healthcare industry, whether it's mergers and acquisitions, medical insurance reform, decrease in solo practices, the list goes on. The pandemic has abruptly changed the mindset of most as to the how/who/where/method of receiving and dispensing healthcare. Like so many others, I get that uneasy feeling walking into a hospital, even if it's for a visit, so I'm happy to know and support that through this process the patient journey is one that will undoubtedly have positive change. With that said though, the industry must be cautious and not lose sight of the most important aspect; quality healthcare

which increases the likelihood of desired health outcomes. Healthcare entities of all types must be in the mindset to accept and endorse these disruptors and know that this change will ultimately be good for all.

Perkins Eastman:

We do see a shift related to multi-disciplinary clinic models. The VA is a great example of this, providing large Health Care Centers and Clinics throughout the country. These settings are truly multi-functional, providing primary care, mental health services, dental services, imaging, physical therapy, specialized services, surgery, endoscopy, medical oncology, and others within a single environment. This approach has provided amazing experiences for the Veterans that utilize these services.

TLC:

Patients want to sometime forget that they are going to a medical facility even when they are within the space. Design the experience to be like a spa or anything other than an hospital or medical facility is always something to think about during design.

VPS:

A flexible mindset will be necessary to create a patient experience tailored to the individual. Healthcare leaders and designers must shift their approach to "the patient as the consumer" to keep up with changing demand. Organizations must find the right combination of people, process, and technology to deliver a more "retail-like" experience to engage the patient. Embracing these new disruptors will be essential to how healthcare systems conduct business in the future.



Q4

How can you address Omnichannel Consumerism to support your clients/owners?



The fact that we are looking ahead- we must take into consideration the effect and future of a virtual world, not just in the patient room but also outside of the hospital with telemedicine.



Ricardo Walker, TLC

BSA:

From a strategic facility masterplanning standpoint, we are seeing demand for beds in combination with highly technological diagnostics remain strong at tertiary centers that continue to handle sicker patients. On the other end, we are seeing the decrease in demand for beds in rural communities even as rural populations grow as a part of the pandemic demographic shifts. In between, demand is increasing for ambulatory care centers where services are consolidated into one-stop shops in strongly branded, convenient locations. The emerging and future demand forecasts care which occurs wherever the “consumer” is and is delivered through technological means. As a result, strategic technology consulting is becoming a necessary and vital service.

Omnichannel consumerism demands ease and standardization. It also deserves branding across varied modes to link care to a system and promote loyalty. As architects, we are cognizant that the digital world spills into the physical and vice versa. The ability to create a cohesive physical and digital experience where each informs the other occurs through a deep understanding of the customer experience.

Digital twins and real estate in the Metaverse will transform delivery of care. As architects and engineers, our ability to realize and create

VR based telemedicine and therapy platforms and digital twins of healthcare facilities and campuses to test out real world challenges will transform healthcare.

HKS:

Diverse modes of interaction: both in-person (spatial) and virtual (digital) as well as diverse means of communication within web-based platforms like social media are critical to delivering a consistent message and reaching consumers. Convenience, comfort level and consistency of communication are key to addressing omnichannel consumerism. The demographic shift will demand more virtual platforms focused on personalized medical therapies based upon smart technologies. Customer/patient access will continue to be a priority.

IMEG Corp:

It's a two-part process. The first is to conduct a thorough current state assessment from the eyes of patient, the care team and supporting operations. The key is understanding what is working and what is not while also evaluating opportunities to maximize current investments from all avenues not just from a technology perspective. Second develop a collaborative vision again with everyone who is going to interact with the organization of where ‘we’ want to go aligned to specific outcomes and most importantly how to get there. Each viewpoint and how they engage with the healthcare organization is important and realizing that each generation is going to leverage different ways is important. This process can be a transformative journey with immediate impacts, but it has to start with a vision.

Omnichannel Consumerism can be supported by omnichannel strategy since each channel (vertical) has different needs and costs. Think about Alphabet as a company which has multiple verticals, Google Search is different from other channels the company has like YouTube and Waymo. There are high-medium-low cost channels which needs to be provided for physical assets, the inverse might be true to digital strategy in terms of cost with those strategies. You don't need to provide the highest level of equipment (X-Ray) in Low physical cost channel strategy as compared to the Inpatient Hospital (which is your high cost channel strategy).

LS3P:

Omnichannel Consumerism is about brand, experience, attraction, and retention in a digital world. In discussing Omnichannel Healthcare Consumerism, we must also discuss safety, privacy, social equity, and resiliency. As architects, we strive to create healthy and healing places with bricks and mortar; our charge now is to do the same in a virtual world, or at least a healthcare world that exists both in buildings and in the cloud.

NOVA:

Healthcare omnichannel Consumerism is about consumer/patient choice, comfort, convenience, quality and even cost of care, bottom line it's the entire experience. As consultants in the A&E industry our primary passion is to provide timely-valued consulting services for our clients' building and infrastructure projects. Through client and project team collaboration with a focus on sustainability and quality solutions to these emerging challenges, we strive to improve the PDC Process. Healthcare and its associated processes are not the same ol' same ol'. Probing questions and outside-the-box thinking leads the way.

Perkins Eastman:

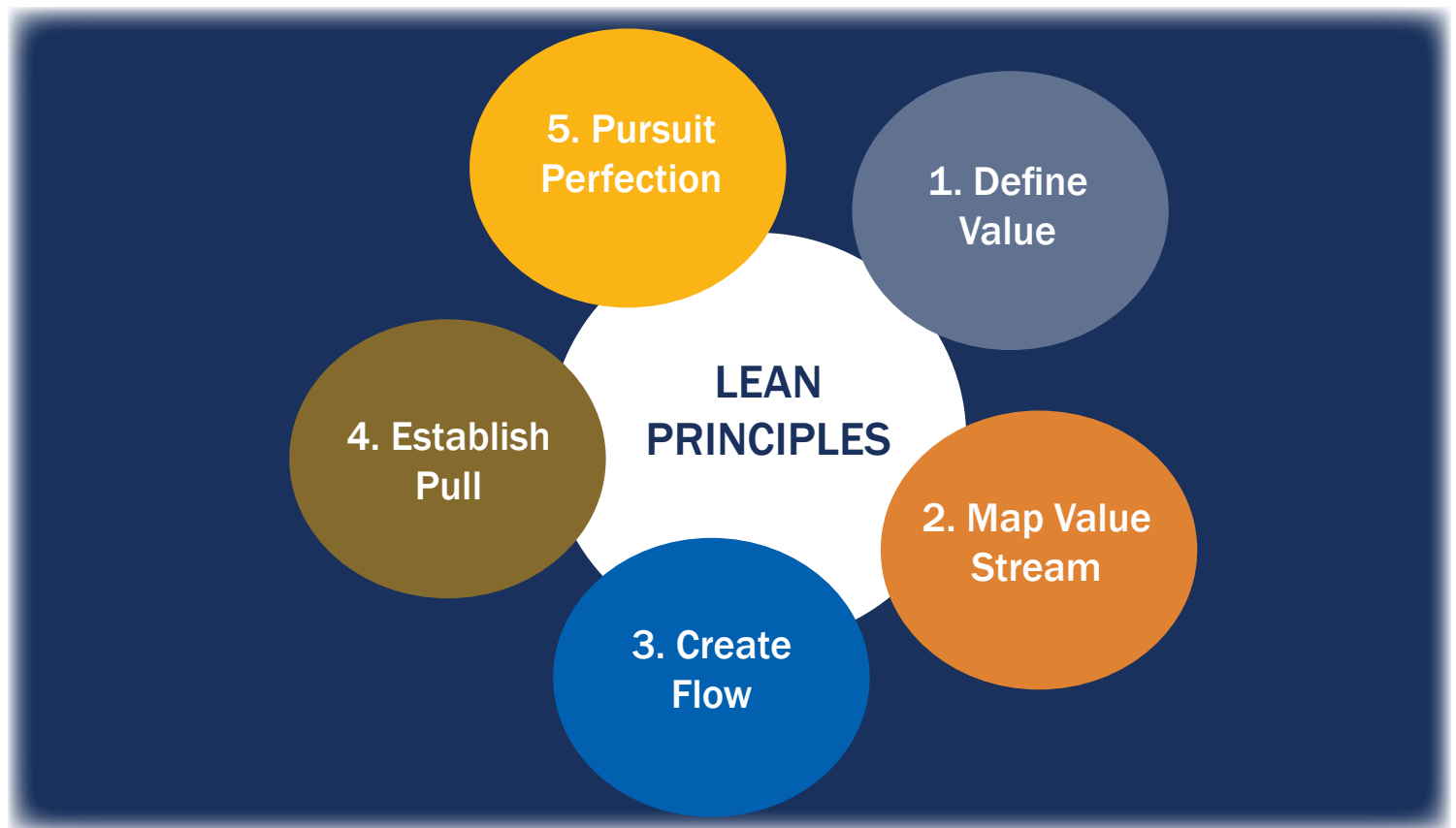
As a design forward firm, we address these issues constantly. To improve the patient's experience, we look to offer nimble and flexible access points at every portal.

TLC:

Our marketing and business development group have always and been very consistent of not thinking in one-dimensional with there marketing strategies. This world that we live in currently is changing rapidly with all the available devices, how things are marketed and different platforms. If you are not keeping up you will be left behind, so being on top of the availability of marketing opportunity and sharing what we are seeing with our owners/clients is the main way to support your client. If you have an understanding of what is available and testing it on within your company give you the ability to learn and understand how to support your client.

VPS:

Integration of omnichannel and tech-based approaches into our designs help boosted patient engagement. As designers, we ask questions about these new applications to better understand how our clients will support their patient's healthcare needs now and in the future. There is no longer a one-size-fits-all approach to healthcare; patient engagement will be the biggest focus moving forward.



Q5

In regards to focusing on Healthcare Facilities and Technologies that improve patient experience and outcomes, sustainability and environmental awareness are critically important issues. Health is a central concern and indicator of sustainable development and productivity for our country (and the world). Do you think leaders within healthcare need to rethink their approaches to result in positive impacts to planetary health and what might this look like?

BSA:

The best analogy of the future of healthcare is a car. In the past, we drove a car until it would break down, periodically doing routine maintenance along the way (whether it needed it or not) to prolong life. When a car would break down, it was often costly and in some cases catastrophic. Cars today are computers on wheels that constantly monitor the health of the vehicle and proactively initiate maintenance before an issue becomes disastrous. In a similar way, healthcare needs to shift from something that happens to us at periodic and catastrophic moments to something that is a part of us to constantly create better and more vibrant health.

The social impact of health starts with wellbeing. Whole person wellbeing in all its forms – physical, mental, emotional, spiritual and relational – are predictors of the health of a culture and that of civilization. As leaders within the healthcare space, we need to approach our work as supportive of a continuum of care that spans more than physical health and encompasses other determinants.

The ability to provide basic safety and security as predicted in Maslow's hierarchy of needs falls to a network of social and economic support systems, one of the most predominant and impactful being access to healthcare. The ability to reach even the most remote and underserved communities in a meaningful way is what will dictate the positive impacts on planetary health.

HKS:

The rise of infectious diseases is inextricably linked to our lack of planet health. Health systems will have to approach health as a systemic issue and population health and planet health are key to this approach. Resilience has been an extremely salient topic in the last two years and will continue to be so. Health facilities will have to exemplify the health of patients and providers, health of the community and the health of the planet. Like all building owners, health systems are called on to elevate the performance of their facilities. Health systems could align targets or a structure like AIA 2030 Commitment goals toward progress, but the decision-making frameworks and funding mechanisms need to prioritize sustainability, renewable energy sources and anticipate increased first costs to achieve ROI over the life-cycle.

IMEG Corp:

Absolutely! According to Healthcare Without Harm, the healthcare sector is responsible for 8.5 percent of the U.S. carbon footprint and 4.4 percent of the global footprint! Healthcare leaders and the design community must build buildings for energy efficiency, leverage low-embodied carbon materials and equipment, purchase carbon offsets, utilize renewable energy and commit to recycling are just some examples. Additionally, and related to the diversification of care models/locations, keep the amount of travel time to/from home for all people (i.e., patients, families, caregivers, consultants, vendors) that visit these facilities. The more we can reduce this element the better environments of care we can provide and in turn the cleaner our planet will become.

Healthcare is highly regulated industry for a reason, so there needs to be rethink about the entire process from supplies, prescriptions, cost, delivery, maintenance, etc. In addition to that we need to rethink about the regulations and how it affects the entire Healthcare delivery model. Healthcare Leaders somehow need to be “futurist” and start pivoting their organization in that direction. Any hospital or IDNs are like a giant Aircraft Carrier, it is takes consider guile and effort to turn that ship without hitting anything around it.

“

As leaders within the healthcare space, we need to approach our work as supportive of a continuum of care that spans more than physical health and encompasses other determinants.

”

Tim Spence, AIA, FACHA, LSSYB, BSA

LS3P:

Our team has produced a document called *The Resilient Hospital*. The thesis is that, yes, hospitals take care of the health of individuals as singular patients, but also the health of individuals as a community, and by extension the healing gardens and waters we call Earth. Hospitals are typically large employers in their communities, as well as resource users and waste producers. Of course, they are central to all our major life events, and the ultimate collective first responder in pandemics, hurricanes, tornadoes, earthquakes, fires, and so on. So, healthcare leaders are thinking about these topics every day. As trusted advisors in the healthcare building industry, we as architects, engineers, and contractors are in the best position to help these leaders make critical decisions about sustainability and resiliency, for patients and the planet.

Perkins Eastman:

Our firm is deeply committed to sustainability across all of our practice areas, including Healthcare. However, strict guidelines and State Regulatory requirements make achieving LEED and Green Globe certifications within the Inpatient setting very difficult. However, these are very achievable metrics within the outpatient settings. As noted above, the VA requires a minimum of two Green Globes for all of their outpatient facilities. This would not be a huge leap for other health systems to have a similar approach for their ambulatory services.

TLC:

Everything that we do on projects have a cost that each leader has to think out paying the upfront cost to save over a long period of time. This is the large part of how the leaders would need to understand how this will help them in the long term. It is understandable hard to ask someone to pay more on items that will not allow for a quick return on investment. However, it is our task as the consultants and design team to design and build building that are sustainable and to keep the environment in mind throughout the design process. Not only focusing on big ticket items but on the overall design. After we do our design and show the result of what we can do to improve upon the design we can then show the owner what to expect with the added investment. Visual aid have always been able to allow owners to make valuable decisions, so providing numbers or breakdown the system to provide some form of content to help with the decisions goes a long way

VPS:

Yes, healthcare systems have one of the largest footprints when it comes to impact on our environment and our communities. Cost has typically been a main driver for development in the past, but new technologies are emerging that will make positive impacts on the built environment. Healthcare leaders need to understand the long-term benefits to their bottom line as well as the positive impact on their community. Sustainable solutions are evolving at a rapid pace and are already changing the way we design.



OWNER'S REPS | REAL ESTATE | PROJECT MANAGEMENT



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Q1

What are 3 key issues that leaders should consider prioritizing (in context of Planning, Design, & Construction / Patient Experience / Health Outcomes) to address the multiple avenues healthcare services will be delivered in the next five years?

Adams:

Healthcare services will continue to move lower acuity services to an outpatient setting. As management of these patients to non-acute settings, we will need to work to ensure the patient remains comfortable they are receiving the appropriate level of care, whether in an ambulatory facility, at home via some form of home care, or in a hotel type setting for initial recovery.

Improvements in integrated care management need to be undertaken to ensure patient care across the continuum of services is consistent and related. Even within large systems gaps continue to exist where a patient seeing more than 1 provider within a system cannot seem to get coordinated care.

Consideration needs to be given toward the acuity of patients that are likely to remain in the acute care setting as more services move to the OP setting. While likely to take longer than 5 years, the expectation is that those patients remaining in an IP Environment are likely to require more acute levels of care (ICU or Intermediate/Step Down care). The makeup of many acute care facilities today lacks the space for these higher levels of care. When planning acute care units for the future, flexibility of room design needs to be considered to ensure that a given room can function at whatever acuity level is called for.

DCI:

Changing technology. The pace of technological innovation far exceeds the pace of the design and construction process. In order for health systems to stay up to date and continue to have the ability to service patients with new forms of technology, we must make plans to accommodate the unknown in terms of space and infrastructure for technological items we don't even know about yet.

Space for Telehealth Visits. Patients will continue to see specialists and in some cases primary care providers virtually. How can we provide space in facilities for patients to come in and use the health systems conference rooms and/or telehealth meeting rooms?

Access to technological interfaces. In the future, we'll see more use of virtual check in stations, virtual appointment booking and the need for patients to charge their devices easily. When we design new facilities these work flows, even if not yet implemented, should be considered.

HMA:

As we emerge from the COVID-19 Pandemic, the expansion of virtual care models adopted in response to the pandemic will likely change how people access care. Many patients have been very satisfied with the convenience of telehealth visits so facility design will need to accommodate space and privacy for virtual care. However, leaders must also recognize that not all patients will have the same ability to access virtual care. They may lack of access to compatible devices or adequate bandwidth. Assuring access for these patients is equally important. Another consideration is the acceptance of work-from-home options which may continue or transition to hybrid workplace practices. This will impact the utilization of administrative space and provide opportunities for alternative space utilization.



Omnichannel is about the healthcare consumer experience, no matter where, how or when they encounter your brand.



Bryant Wilson, JLL

JLL:

The three key issues that leaders in healthcare should consider in the next 5 years are: i) flexibility in service infrastructure, ii) expansion of services, and iii) continuity of care.

i) The observation that things are changing faster applies to all industries. Healthcare delivery is no different but the healthcare environment is often like a battleship in its ability to accommodate rapid and persistent change. The recent pandemic provides numerous examples of how hospitals, as a critical infrastructure component, were not prepared to accommodate the onslaught of cases. Having a flexible and capable infrastructure will help to minimize the impact of such events. The key elements of a flexible infrastructure include: access to an exhaust system for both patient rooms and any space that could be used for overflow, access to medical gases for overflow spaces, specifically designed overflow spaces, specifically designed units or collection of patient rooms that can be isolated, the ability to minimize and control entrance to the facility, and flexible/universal patient rooms that can accommodate multiple levels of patient acuity. Many of these infrastructure adjustments may be difficult to implement due to the age and layout of older facilities around the country. They should certainly be considered and included in any new construction.

ii) In the last decade, we have seen a shift from the majority of healthcare happening in a hospital to happening at a local delivery point such as a local drug store or medical office building. This shift in the industry shows no signs of slowing down and should be embraced by the core healthcare industry.

The shift should be embraced not just because the healthcare industry cares about their patients but because as an industry, they should be protective of their role in providing these services and they should be wary of disrupters and outside competition. Healthcare providers should continue to expand their service locations and their services in order to retain and grow their brand and create loyal customers.

iii) The expansion of ambulatory care services has had several notable results. It has caused a separation of the patient population based on acuity. Logically only the most acute patients now go to the hospital for care. This is beneficial for the patient both from a cost standpoint and an exposure standpoint. It is also beneficial for the patient, from a convenience standpoint, because ambulatory care services are often more convenient to access versus going to the hospital itself.

The ambulatory care offerings are continuing to grow and change and these changes are not always beneficial for the patient. Private physician practices are growing and their office locations provide more than simply physician visits. Many large practices offer on-site imaging, on-site pharmacy, on-site procedures and even on-site surgery. This takes away demand for these same services at the hospital. The more services get decentralized the less continuity of care exists for the patient. One of the main benefits, and unrealized benefits, of a hospital setting is that the care is provided wholistically. All medical issues get addressed in one place with multiple specialists contributing to resolving health issues. By obtaining care from multiple remote specialists the care is siloed. The expectation from the industry is that this is being solved through patients having a PCP. The reality is quite different however since many people do not have a PCP. There has been a notable increase in primary care type visits being handled at Emergency Departments, Urgent Care Facilities and Minute Clinic style service providers. Healthcare systems need to consider how to resolve this growing lack of continuity in patient care and consider creating a service model that not only provides more convenient care for patients but more wholistic care. How can healthcare systems provide a reason for brand loyalty?



Q2

With new models of care emerging (think Amazon Care), what do you think the impact will be to hospitals (Facility Size, Locations, Services) and physician groups in the near future?

Adams:

Virtual care has exploded since COVID began. This has provided an easier access to care for many patients, but at this point only allows for what the provider can learn from the patient explaining the symptoms/concerns and what he/she can see on video (if the visit is done via video). With technology improving regularly, there are more and more basic devices that patients can use to make these visits more valuable (connected Blood Pressure Monitors, wearable pulse ox, portable EKG, connected scales, etc. Providers' ability, and willingness to integrate the data from these devices may evolve virtual care to a similar, and maybe better option for care than in person visits.

This change isn't likely to directly impact acute care infrastructure needs in the near future, but planning for appropriate provider spaces to render such services is already in consideration. In a typical office environment a provider needs 2-3 exam rooms, plus clinical support space, waiting rooms, etc in order to see patients in person. In a virtual environment they need a single office space, albeit with adequate IT infrastructure to support integration of patient device data and video conferencing capability to see and talk with their patient. Continuing this evolution is likely to reduce the needs for clinic office space, and possibly consolidate locations more in the future.

DCI:

Locations will continue to spread out into the community. We will see a reduction in low acuity inpatient facilities. New inpatient facilities will shift to be able to accommodate the highest level acuity patients

HMA:

In the 21st century, convenient electronic access to consumer goods and services has continued to escalate. Similar expectations of the health care system continue to emerge. It makes sense for specialized acute care services to continue to be delivered in a hospital setting where economies of scale are important to containing costs. However, providing primary care that supports population health and addresses the social determinants of health will need to be moved into the community, closer to where patients live and work. Virtual care options will offset some in-person visits and result in the footprint of ambulatory clinics being smaller

JLL:

The new models of care are having a direct impact on the care delivery model in multiple ways. Lower acuity services have moved out of hospitals and as new equipment and technology enhancements arise, more inpatient procedures shift to lower cost per procedure facilities. With the shift to preventative

medicine and wellness over the next few decades, this too will decrease the growth of hospitals. CMS and private payors are pushing forward to require institutions to implement prices transparency. Virtual and population health innovators are growing exponentially due to the changes in reimbursement during the pandemic. This will impact the size of hospitals, especially emergency departments that currently end up caring for non-urgent care patients. Home health is starting to grow due to enhanced reimbursements. By diverting low acuity admits to hospital-at-home and earlier discharge on stable acute patients, the shift could reduce total bed days (predicted by the experts) up to 30 percent. Lastly, physicians will continue to join networks to assist in reimbursement and overhead costs. They will eventually rely on more sophisticated technology such as AI, to assist in more accurate and efficient care delivery.



Q3

Disruptors in the form of Private Equity (forming partnerships and alliances), Smart Technology, Flexible One Stop Shop Facilities (health parks) in combination with lessons we have learned from the pandemic are forever changing how healthcare is delivered. Are their current protocols or mindsets we need to dramatically shift in order to more positively impact the patient journey and health outcomes?

Adams:

The healthcare services we historically have seen are reactionary rather than preventative. It also lacks the integrated approach to the whole patient. Current and historical efforts to make healthcare consumer driven like most every other service or product have fallen short. Conflicting patient management and financial incentives for patient care continue to drive this divide. Healthcare is ripe for external disruption that is aimed at moving healthcare truly into a consumer driven environment. Development of a truly consumer driven integrated health platform/service will positively impact the patient experience, and should improve health outcomes.

DCI:

Yes, we have to provide greater access to information about our health. We have to educate the public on general well being before you arrive at the hospital. Covid has shown us how important good health is in being able to fight disease. Healthy weight, diet and exercise are more important then ever. We've got to focus on public health and our food options/diet education. We can't continue to prop up the notion that if you don't take care of yourself, the hospital can fix you!

HMA:

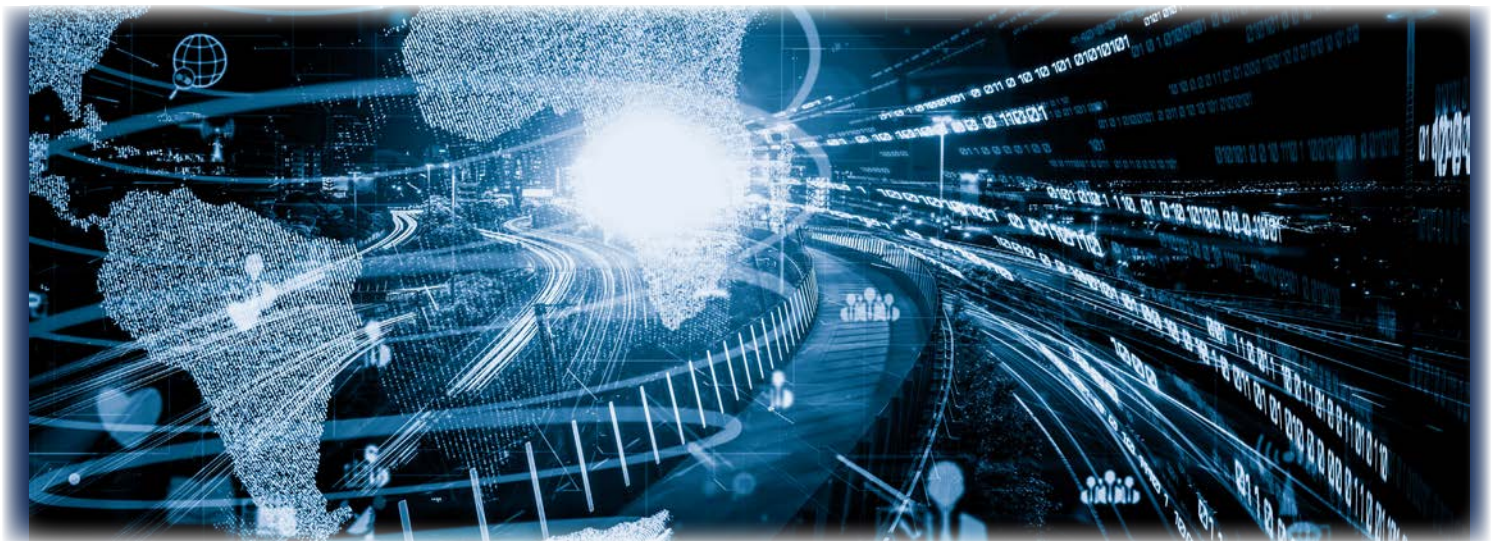
While convenience is certainly a factor in how care should be delivered, we must be careful not to create a fragmented model. For example, patients with multiple

chronic diseases need a consistent primary care provider to orchestrate care. This is necessary to assure patient safety while decreasing redundancy and unnecessary interventions. The health care industry must develop a mechanism that provides seamless electronic access to a patient's full record regardless of where they choose to receive care.

JLL:

As noted above there is strong trend towards decentralizing care from the hospital to multiple ambulatory options. This is obviously great for patient convenience but it is not great for the continuity of care. There are multiple EMR systems on the market and even though a major selling point of the EMR is its capability to pool all of a patient's health data in order to promote collaboration in the care team and affect a better outcome for the patient, the system's efficacy is greatly diminished when you consider that often patient data is scattered across multiple EMRs. The patient should not have to choose their healthcare based on the EMR instead of based on the healthcare provider.

The move to more convenient care is a positive one for patient outcomes. The next major industry move should be an alignment around patient information and how it should be shared and how a patient should be tracked and guided through their healthcare experience. Patient care should be led by the caregivers instead of the record management system.



Q4

How can you address Omnichannel Consumerism to support your clients/owners?



DCI:

Stay aware of trends in the industry new technology/processes that are being developed. We must serve our clients by continuing our education on cutting edge ideas and understanding what's coming in the short and long term future.

HMA:

Health Systems will need to continually expand their digital footprint. Robust, user-friendly websites provide an important digital front door. Virtual care platforms must be available and easy to navigate. It is imperative that data analytics are robust enough to handle the necessary data for supporting patient care and displaying it in a way that is usable and understandable. While providing these digital tools, the health system will need to ensure that patients experience personalized care that meets their unique needs. Examining a client's digital capabilities and evaluating ease of use is critical to assuring a satisfying patient experience. A critical part of adopting these new technologies is allowing patients to participate in the design. This can be accomplished through patient engagement utilizing surveys, focus groups or other facilitated methods.

JLL:

Omnichannel is about the healthcare consumer experience, no matter where, how or when they encounter your brand. Not unlike successful retail advertising for clothing or fast food, a healthcare system brand must follow similar mediums to spread the word on their brand. The healthcare

system must have a multi-media presence including a virtual presence through emails and multiple access points on the web (social media) and in person; all those experiences must be integrated in a way that improves the end-to-end consumer experience. Consumers should receive exactly the information they need when they need it. The two main components of omnichannel healthcare strategy are: the personalized call to action and the immediate call to action. They provide instantaneous interaction such as live chats answering questions, an e-book, or white paper or setting an appointment. This immediate interaction will build a relationship by being responsive to the consumer as quickly as possible. Consumers lose attention and move on quickly if your touch point CTA's are cumbersome and or too lengthy. Healthcare providers and/or systems that develop targeted, data driven strategies will improve their ROI. They must educate, inspire, and include content that the consumers want the most. Providing and maintaining a mix of channels increases connectivity such as email, offline ads, patient portals, social medias, and call centers increase potential connectivity and providing a targeted message will get you in front of the consumers that you so desire.

“Improvements in integrated care management need to be undertaken to ensure patient care across the continuum of services in consistent and related.”

Jeff Christmann, Adams

Q5

In regards to focusing on Healthcare Facilities and Technologies that improve patient experience and outcomes, sustainability and environmental awareness are critically important issues. Health is a central concern and indicator of sustainable development and productivity for our country (and the world). Do you think leaders within healthcare need to rethink their approaches to result in positive impacts to planetary health and what might this look like?



Adams:

Healthcare Leaders need to focus on improving the integration of care, focused on preventative and proactive health for the individual. By improving this process and integrating it, patients will gain more out of every single interaction they have with their healthcare team. The challenge that most leaders face today is misaligned or even contradictory financial incentives. While moving some services to more ambulatory settings may make sense, the financial ramifications may be negative to the organization. This negative impact slows the adoption of such moves. Healthcare leaders need to focus on the longer term visionary goals of patient health and make decisions and investments based on where the future of healthcare is headed over the next 15-20 years rather than just what is likely to happen in the next 1-5 years.

DCI:

Healthcare leaders need to partner with community and government leaders with a stronger focus on public health and sustainability. Health of the population is not just a health system issue. It's a governmental, community and social issue. Health leaders need to communicate and stress the importance of community health and how that can relieve facility overcrowding, staffing concerns and ever-increasing healthcare costs.

HMA:

Sustainability and environmental awareness are important for the health care industry but addressing these can be very challenging. Health system leaders will need to

think creatively to address environmental concerns while maintaining the high quality and safety of the care they provide. Patient safety and infection prevention regulations eliminate the ability to reuse many medical supplies. When possible, health systems should participate in recycling programs and obtain goods from socially conscious providers. Waste should be managed with the minimum impact on the environment. Manufacturers should be asked to consider using low impact environmental processes while maintaining the high standards necessary to assure the safety of those who depend on the health system for their care.

JLL:

The healthcare industry has not been slow to recognize the benefits to patient outcomes due to green space and green products in the environment. The industry has been slow to implement changes across their platforms for a number of reasons not the least of which is the cost. Sustainable solutions are still coming at a premium in most markets. Many healthcare providers are struggling with rising operating costs and lower reimbursements and adopting sustainable principles, unless they positively affect the bottom line, is not a priority when finances are tight. Many of the sustainability efforts relate directly to buildings and amenities and only a few relate to operations. Healthcare facilities use an enormous amount of cleaners, disinfectors and generate an enormous amount of waste. There is ample opportunity to rethink operations and revamp processes to find more sustainable solutions.



In order for health systems to stay up to date and continue to have the ability to service patients with new forms of technology, we must make plans to accommodate the unknown in terms of space and infrastructure for technological items we don't even know about yet.



Leslie Colucci, RA, DCI

CONSTRUCTION LEADERS



Haskell
Denise Muth
Mark Allnutt

JE Dunn
Matt Jennings, SVP
Bernadette Mitchell

Skanska
Chris Hillyer
Bryan Sanetz, CGC

Q1

What are 3 key issues that leaders should consider prioritizing (in context of Planning, Design, & Construction / Patient Experience / Health Outcomes) to address the multiple avenues healthcare services will be delivered in the next five years?

Haskell:

Upgrading of medical gas systems. Upgrading their technology and upgrading systems to allow 100% outside air or HEPA filtration and improving exhaust systems. Converting more rooms or wings of hospitals to isolation floors and departments. In addition, the use of prefabrication of more portions of projects needs to be prioritized. That process though requires providers to bring contractors on earlier to help facilitate and drive the process and requires designers to relinquish some of the controls.

From a supply chain perspective, look to standardize their purchases to perhaps provide purchasing leverage, ease of maintenance and replacement.

We learned a lot during the pandemic and found ways to keep moving. Take the time to correct and course-adjust from these lessons learned to reduce the red tape and burdens as we move forward. Now everyone is trying to do more with less and efficiency must be gained.

JE Dunn:

Decision-Making & Planning Informed by Consumer Data: Non-traditional healthcare organizations, such as technology and retail companies expanding their healthcare presence, have a wealth of consumer data available to inform their strategies and services. To compete with these potential “disruptors” and deliver an exceptional patient experience, healthcare organizations will benefit from ensuring their plans are heavily shaped and validated by consumer demographics, preferences, habits, and other key consumer data points.

Leveraging Technology to Further Enhance the Patient Experience: Consumers have grown accustomed to a more seamless digital customer experience in many facets of daily life. Similarly, comfort with and demand for patient journeys enhanced and enabled by technology will also continue to grow. Healthcare organizations will benefit from understanding, embracing, and meeting the consumer’s growing digital preferences across the entire spectrum of consumer touchpoints, including in the built environment.

Change Leadership: Largely because of COVID-19, the healthcare industry has recently experienced

unprecedented change. To successfully continue navigating this dynamic time while also evolving the patient- and consumer-centric journey, highly effective change leadership will be essential for continued success. Additionally, seeking input from trusted partners and thought leaders will help gain fresh perspectives, driving effective innovation and transformation.

Skanska:

To better address the multiple platforms in which healthcare services will be delivered, industry leaders must first understand the shifting needs of various patient population demographics. For example, a rapidly growing demographic of 65 and older could require higher acuity care options; younger generations may want to shop around for best value and convenient options; disadvantaged communities may benefit from a one-stop-shop solution for preventative care, dental services, and pediatric services to lessen the burden of travel or work constraints; and rural communities could need greater access to specialty care, such as orthopedics or behavioral health.

Industry leaders should plan early for the right technology and infrastructure required to apply a multi-platform approach that addresses these unique care needs. It’s important for leaders to stay on the forefront of technological advancements and changing IT costs, as well as incorporate flexibilities in physical spaces similar to how we plan for advancements in medical equipment.

Finally, speed to market will be critical. Finding creative ways to deliver facilities or platforms more efficiently through early partnering and procurement using more collaborative delivery models such as IPD or design-build to minimize supply chain and lead-time challenges will be increasingly more important.

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Many of today’s greatest innovations were created while searching for a solution to an unrelated challenge.

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Chris Hillyer, SVP, Skanska

Q2

With new models of care emerging (think Amazon Care), what do you think the impact will be to hospitals (Facility Size, Locations, Services) and physician groups in the near future?

Haskell:

I do not think that we will ever eliminate the need for hospitals, but you will see more and more of these “outside the box” concepts that speed the ability to receive healthcare. You may see more smaller 50-100 bed regional hospitals that are generalist with bigger more complicates still sent to a bigger facility. The Walmart and Amazon solutions are forcing more Healthcare providers to revisit the FSED programs and build using a Modular solution to beat these competitors to the market. It will be important to see if physicians support these alternate delivery methods; do they actually have a connection back to a larger healthcare provider?

One-stop shopping is a priority with the millennials. Additionally, with the apparent hybrid working plan seemingly here to stay, folks will be working from home more and we can expect to see the need for all services closer to the ‘burbs and outlying areas. As such, hospitals will be used for acute, inpatient care, and all other services could be performed at outpatient, specialty depots.

JE Dunn:

New models of care, such as Amazon Care, have the potential to disrupt the industry, particularly for lower acuity care. Even if these “disruptors” efforts are unsuccessful, many healthcare organizations have already begun migrating various services outside the hospital to outpatient and specialty facilities, and locations closer to

patients’ homes and workplaces. These types of plans and efforts could certainly be accelerated due to competition from new players in the industry. Also, as some care shifts out of the hospital to other settings, health systems will likely prioritize the ability to easily adapt and flex spaces within their hospitals to respond to and meet dynamic demand and service line revenue goals in the years to come.

Skanska:

With new models of care emerging and non-traditional healthcare players entering the industry, we could see healthcare organizations seek out more partnerships to diversify their service offerings and sites of care. Hospitals and patient beds will always be needed; however, we could see healthcare facilities become highly specialized for specific care, continue to move closer to their communities, and leverage technology to use resources more efficiently across their network. It will be important for healthcare organizations to maintain a flexible approach so they can adjust based on evolving needs.

This impact will also tie to the physical “right sizing” of facilities. We will continue seeing a focus on efficient design to decrease initial construction costs and reduce operating costs, which often improves speed to market.



Q3

Disruptors in the form of Private Equity (forming partnerships and alliances), Smart Technology, Flexible One Stop Shop Facilities (health parks) in combination with lessons we have learned from the pandemic are forever changing how healthcare is delivered. Are their current protocols or mindsets we need to dramatically shift in order to more positively impact the patient journey and health outcomes?

Haskell:

The pandemic has changed the healthcare delivery and how patients want to be treated. Continuation of telemed and bringing healthcare closer to home will continue to be important factors for patients. Being willing to embrace prefabricated building solutions which typically have a higher upfront costs and cash curve will be important mindsets to change. The ability to bring healthcare to communities quicker will be important solutions to embrace.

JE Dunn:

Given the impacts of the pandemic and new “disruptors” entering the healthcare landscape, embracing a more transformative mindset will be critical to continued success. A more transformational view of objectives and plans – as opposed to smaller, incremental change – will sometimes be necessary to remain competitive in this dynamic, increasingly more digital environment.



Furthermore, prioritizing and designing a more patient-centric, personalized patient experience will also be important. This will require a systemwide, holistic assessment of all real estate assets and plans to ensure the patient experience in the built environment is seamless across all facilities.

Skanska:

As leaders in the healthcare industry, we should shift our mindsets to look outside of healthcare for inspiration on how to positively impact the patient journey. Consider cross-industry innovations that can be translated to solve today’s healthcare challenges. For example, what can we learn from Apple’s technology ecosystem (iPhones, AirPods, Apple Watch, MacBook, iPad, Apple TV, HomePods, etc.) that, when used together, greatly benefits the user experience? How can we leverage ideas from the hospitality industry, such as concierge services or brand consistency no matter the location, to improve health outcomes? Many of today’s greatest innovations were created while searching for a solution for an unrelated challenge.

The pandemic emphasized the need and desire for more patients to receive telehealth—whether acute or preventative—this model will continue to expand as technology is further utilized to connect doctors and patients. A more universal adoption will be necessary for positive outcomes.



To successfully continue navigating this dynamic time while also evolving the patient- and consumer-centric journey, highly effective change leadership will be essential for continued success.



Bernadette Mitchell, JE Dunn

Q4

How can you address Omnichannel Consumerism to support your clients/owners?

JE Dunn:

Construction management firms can support owners' patient experience objectives by first understanding each owner's unique patient demographics and patient experience plans and objectives, and then collaborating with owners and key partners in the early stages of planning to explore ways of enabling a more seamless patient experience via the built environment across an owner's entire portfolio of facilities.

Furthermore, given the increasingly complex technology component of most of today's facilities, the architecture, engineering, and construction industry must provide robust capabilities for leading and enabling "smart" facilities to support the owner's patient experience objectives and ensure facilities' technological foundations are sound and equipped for best-in-class clinical and consumer experiences.

Skanska:

As a construction management firm, we can best support our clients in creating healthcare environments that promote omnichannel consumerism by understanding their long-term strategies across their various campuses, satellite

locations or digital platforms. Having a holistic approach enables us to bring more creative cost, schedule and logistical scenarios to the table to help our clients achieve their overarching organizational goals. One strategy is identifying and bringing the right partners to the discussion early in the process – this is especially important given the current state of the market, supply chain challenges and rising costs.

Flexibility will remain to be a focus area for our healthcare clients, so it's up to us to ensure we are adequately supporting and planning for changing equipment, technology, or patient care models and implementation during the design and construction phases.

We'll also look for the best technology alignment to support our clients. This includes using AI/data to drive efficiencies; establishing predictive analytics to look at cost, schedule and other key performance indicators (KPIs); or continuously evolving our 3D modeling/VR capabilities as a communication tool for better stakeholder and end user engagement.



Q5

In regards to focusing on Healthcare Facilities and Technologies that improve patient experience and outcomes, sustainability and environmental awareness are critically important issues. Health is a central concern and indicator of sustainable development and productivity for our country (and the world). Do you think leaders within healthcare need to rethink their approaches to result in positive impacts to planetary health and what might this look like?



Haskell:

Partnerships with large to medium businesses – Think big industry and healthcare. Many firms are self-insured now days and only have insurance for large or catastrophic illnesses. Healthcare providers should look to partner with employers to imbed healthcare providers within companies. Like your school nurse so to speak. How much time and money is lost by businesses when their employees have to leave the workplace for appointments? This can take many forms; Clinics at work location when a physical visit is necessary, in the case of medium businesses but ,,,,,

I believe as we evaluate the lessons learned from the past 2+ years, that the question about sustainability and environmental awareness should be part of the discussion.

JE Dunn:

As businesses’ environmental practices and impact become more important to consumers and further influence their buying decisions in general, it is likely these aspects of a healthcare provider’s brand and reputation could also become more important to healthcare consumers (especially since many healthcare providers’ missions typically have a strong community-focused component). Architecture, engineering, and construction firms should continue helping clients understand the impact of different design and construction decisions on sustainability and

environmental stewardship, so owners can make informed, environmentally conscious decisions and investments. Our industry must also support its clients by continuing to offer innovative, cost-effective, and sustainable products and practices.

Skanska:

Many of the healthcare leaders we work with are already rethinking strategies to expand their commitments to planetary health. Intrinsicly, their current strategies, which are focused on improving patient outcomes are also benefiting the environment. For example, choosing building materials that promote better air quality positively impacts patient and employee health, as well as the planet. Another example is the installation of touchless controls, such as occupancy sensors. While designed to address occupant comfort and safety, these sensors also reduce energy usage. There are also significant sustainability benefits for facility managers that use their digital twin and dashboarding technology for both the monitoring of particulate load, thermal comfort and air flow controls, as well as for identifying issues with energy and water use. So, perhaps the answer is not so much about the planetary considerations being additive as it is about studying the holistic results of what has already been implemented and growing the areas that achieve positive, multi-area impacts.



Being willing to embrace prefabricated building solutions which typically have a higher upfront costs and cash curve will be important mindsets to change.



Denise Muth, Haskell

STRATEGIC & PRODUCT CONSULTANTS



**INDEPENDENT
HEALTH ADVISOR**
Fred Koplow

**HASKELL
HEALTHCARE**
Kevin Meek RN-BSN,
BA, MHI, EDAC, FACHE

MILLERKNOLL
Michelle Ossmann,
PHD, MSN

Rule of Three
Josh M. Berlin, JD

WJH HEALTH
Bill Hercules, FAIA,
FACHA

Q1

What are 3 key issues that leaders should consider prioritizing (in context of Planning, Design, & Construction / Patient Experience / Health Outcomes) to address the multiple avenues healthcare services will be delivered in the next five years?

“
The future value stream will be creating and preserving health – not just treating impairments. Who owns the routine and have systems in place for the complex will own the patient and revenue relationship
”

Bill Hercules, FAIA, FACHA, WJH

Independent Health Advisor:

Healthcare has gotten so cumbersome; I think we face issues in 3 areas:

1. Patient connectivity with providers into care is broken. It has become so segmented as global increase in patient demand accessing the simplest of abilities to request an appointment with a doctor across so many population segments has become insurmountable.
2. Determine who's on first with EHR's, Tech Stacks, and patient portals. Incredible need for more efficient communication across patient providers, portals, and patient accessed platforms.
3. An actionable data centric approach for patient care within the health plan, payer marketplace and solve for care; where it's needed most.

Haskell Healthcare:

One of the elements that has impacted healthcare delivery through the pandemic of recent years is the manner in which care will be delivered. Leaders will need to consider and prioritize opportunities for engagement in coming years:

Expansion of telehealth and tele-home services: While telehealth was not widely utilized and accepted prior to the pandemic, many consumers have now become accustomed to and actually prefer the opportunity to use telehealth. However, current models of care and telehealth operations are far below what will be needed to successfully expand and keep telehealth a viable option for consumers. Also, engaging telehealth care services both in care settings and

at home will become a crucial component to provide care at the lowest cost of service level.

Development of 'Medical Homes' where patients can transition from acute care to home in a safe and lower cost of care than traditional skilled nursing facilities. Providing a continuum of care model that reduces hospital length of stay and brings care to appropriate settings will provide leaders with an opportunity to improve cost performance to compete against rising healthcare costs in care delivery and lower reimbursements from payors.

Designing facilities that provide quick and easy access for consumers will also be key for bringing services on to a larger campus. If care is slower at larger tertiary centers, consumers will seek alternative places of care that provide quicker service and allow for faster in and out episodic care.

MillerKnoll:

Leaders should prioritize (1) experience, (2) de-risking change, and (3) implementation science. Experience must be considered for the patient/family and staff, whereby the health delivery avenue matches the desired experience and of course, care quality outcomes. Secondly, healthcare operations underwent enormous and rapid experimentation since the pandemic, and yet PDC tend to design without considering those changes and learnings, leaning instead into the comfortable "known knowns" established before the pandemic. Leaders should prioritize de-risking change to better encourage their teams to look beyond the status quo for stronger decision-making, problem-solving, and ultimately caregiving. Lastly, the gap between learning and implementation is too great given the need to respond to patient and clinician needs. An implementation science approach can bring rigor and iteration to healthcare services.

Rule of Three:

Over the next five-year horizon in healthcare, the three overarching topics organizations will confront are the move away from traditional acute care settings into ambulatory/home/virtual delivery settings for care, fee-for-value activities will further cement themselves as part of the fabric of the industry having a strengthened balance with fee-for-volume activities, and consumer/retail-oriented

models will advance as foundational players in the healthcare ecosystem. Those healthcare organizations not embracing at least these three topics as a sea change in the industry will find themselves further behind the curve than they are today in delivering a more person-centric delivery construct.

WJH HEALTH:

Convenience at all levels. The historical lack of convenience for care, especially non-acute care, has invited other market entrants to disrupt existing channels. Existing systems must adapt or become further marginalized. **Chronic care and post-critical care at home.** The hospital-based system was never designed – it evolved from a place to benevolently

treat the poor and comfort the dying, and it was involuntarily malformed as a response to public policy and the economic opportunity created by large pools of social funding in the form of taxes and insurance programs. I predict that most non-emergent, non-interventional, and non-critical care will be shifted to home environments supported by technology and roving caregivers. **Creating health.** Leaders must consider reducing the demand on the unsustainable cost system by focusing on health creation. Previous systems were reactionary based on the false assumption that people were otherwise healthy. The future value stream will be in creating and preserving health, not merely treating impairments.

Q2

With new models of care emerging (think Amazon Care), what do you think the impact will be to hospitals (Facility Size, Locations, Services) and physician groups in the near future?

Independent Health Advisor:

Three new forms of care are evolving (Home Based, Value Based and Hybrid) to meet the patient where they are at and all of us in the health vertical are trying to figure out who is in first for care and how they work together seamlessly. Hospitals with all their associated physician groups need to clearly provide a better path to augment the hospital call center for better patient connectivity and alleviate hospital staffing that needs to respond hourly to so many patient needs.

Haskell Healthcare:

Gone are the days of large-scale massive tertiary hospitals, and in are the days of smaller neighborhood models of care. Hospitals of the future will be programmed in such a way that consumers will be able to get 80% of their care done at facilities close to their home that provides most common services. For specialty and advanced care needs, patients will utilize larger, academic, facilities in larger metropolitan cities.

Physician groups will also see significant changes. No longer are single/independent providers able to meet the demands of payors and consumers to provide for the increase of healthcare needs. As such, providers are ‘partnering’ or joining together to form provider groups. These groups, often specialized in nature, are contracting as larger provider offerings to hospitals. In these arrangements,

the provider groups are able to negotiate better terms and revenue opportunities than they would be able to if they were just an independent provider. This means that new providers entering the workforce are going to be employed in a provider group, versus individual practices. This will also lead to changes in the future of medical office building MOBs as there will be less providers needing independent space, and larger provider group based MOBs.

MillerKnoll:

While certainly groundbreaking, at their root, new care models such as Amazon Care and Teledoc services are focused on shifting the location of where care is delivered rather than the care itself. With these models, it still follows that hospitals and clinics will continue to be the catch-all default for situations where there is uncertainty or acuity (i.e. emergencies) or key activities needed that cannot be currently done virtually (i.e. imaging). That said, health systems must prepare for decentralized, highly local, and increasingly technical (such as infusions/dialysis at home) sites of care.

“

Leaders can focus on pivoting to prioritize ‘multiple use’ plans, not ‘single use’, for chosen products and design, such as specifying how and where casework configurations will change according to anticipated operational needs.

”

Michelle Ossmann, PHD, MSN, MillerKnoll

However, while the demand for decentralized healthcare continues to grow, there is a shadow workforce of lay caregivers that has yet to be fully operationalized in terms of their capability, willingness, and ability to ensure these procedures can be completed to the same level of satisfaction in the home as they would in a medical facility, such as a hospital. The groundwork for decentralized care is being laid, but there are many aspects needed to make it a success that are far from complete. In the near future, I anticipate preparatory activity for hospitals and physician groups on how to scale to meet these new ways of delivering care, rather than immediate change.

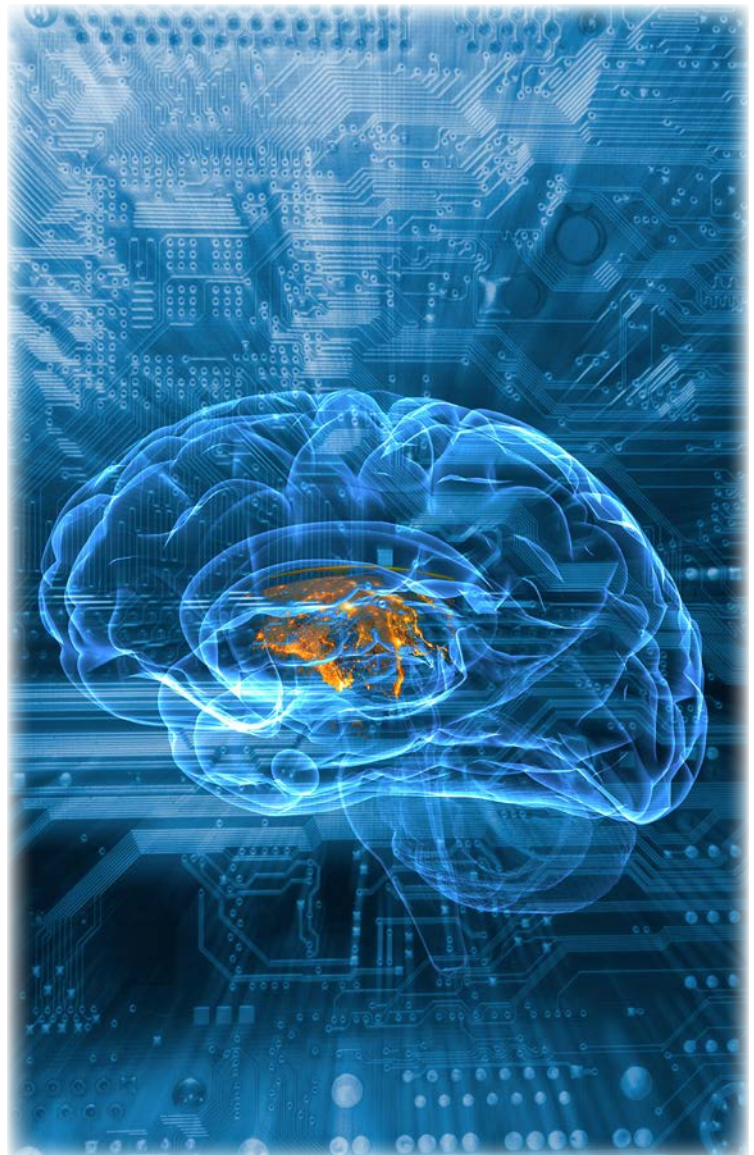
Rule of Three:

A new “big four” have emerged in healthcare – Amazon, Walmart, Walgreens, and CVS – all of whom bring financial runway and investment appetites to alter the ways we have envisioned healthcare over the past several decades. This new healthcare “big four” have all shown that they will shift and move with learnings from choices past, failing when required and building anew when necessary, pointed towards a primary care-focused model of care for the masses. All have put stakes in the ground to declare primary care as the anchor for how they will deliver care to their already strong consumer bases. Combined, they’ll have hundreds, if not into the thousands, of clinics across the country, in the immediate vicinity of many current community healthcare organizations and practices. The clinic and primary care presence these “big four” will deploy will blend with virtual and digital capabilities to deliver needed services into both the medically served and underserved communities in which they are situated.

Capitalizing on the significant provider burnout and workforce challenges, the “big four” are primed to attract top talent with balanced work-life initiatives, competitive compensation, and smaller patient panel sizes, potentially relegating some community healthcare organizations into specialty referral centers for more expensive required care.

WJH HEALTH:

Hospitals will continue to be needed to address impairments in health. Health systems will be needed as the value proposition for the full wellness and sickness continuum. However, their basis will evolve into treatment for the critically ill, for severe emergencies, and for interventions – all of which require highly skilled teams using highly specialized and expensive equipment in controlled environments to manage risks.



Q3

Disruptors in the form of Private Equity (forming partnerships and alliances), Smart Technology, Flexible One Stop Shop Facilities (health parks) in combination with lessons we have learned from the pandemic are forever changing how healthcare is delivered. Are their current protocols or mindsets we need to dramatically shift in order to more positively impact the patient journey and health outcomes?

Independent Health Advisor :

PE firms, venture funds, and health institution investment firms are all trying to make a stake in health care and lean in to help effect change. The patient journey will be dramatically affected if beyond the technology, companies can literally connect and simplify the health dots between Payers, Providers, health systems, and Hospitals. No matter the models, the financial institutions are all trying to lean in; yet, a great example to look at is Teledoc. Their services and partner platform for Hospitals helped and continue to help making tremendous impact. However, Teledoc appears overvalued for the acquisition of Livongo and undervalued for the true effect they continue delivering for patients, providers, and Hospital systems.

Haskell Healthcare:

The greatest shift we see happening in care delivery is with the transition of ‘care at home’. During the pandemic, many who were infected and sick were instructed and required to remain at home. This was a huge change in the previous model of care where consumers would go to a medical facility (doctor office, clinic, urgent care, etc.) when they felt sick. During the pandemic, we experienced new care centers emerging almost overnight. Testing and vaccinations were provided at drive-thru pop-up centers, and patients were gathering supply items and returning home to ‘care for themselves’. The new mindset has to engage consumers as active participants in their care and no longer solely relying on patients to ‘come to us’ as providers if they are sick.

MillerKnoll:

The best disruptors make health and care easier and safer. However, disruptor offerings should reflect that a person’s main goal for their life isn’t to receive or seek care. Rather, they value living their life to the fullest, prioritizing the activities that are most valuable to that individual, meaning they usually see healthcare activities as a means of support that helps them continue those activities rather than being a value itself. The health landscape is littered with smart tech that is designed as if the patient wanted to add it into their life, rather than the reality that it is usually used for a week and viewed as a necessary burden, the “disruptor-determined outcomes” never realized. As we design solutions for the patient journey and health outcomes, we should hold ‘living my life’ as a first principle.

Rule of Three:

There is little doubt that a more integrated, team-based, primary care-oriented model of care is the wave of the future. Demonstration efforts in bundles, episodes, and accountable care more broadly have illustrated that with a more integrated delivery model, particularly one rooted in quality and performance rigor, individuals can receive care tailored to their needs no matter where they are in their journey or physical location. Private funding is pushing the envelope with the rise of both new and innovative care models, but also a more efficient model of traditional care delivery. Further, the pandemic taught us all that we can get more comfortable more quickly with digitally and virtually enabled care modalities, as it also taught us that regulatory barriers can be overcome when necessary to allow for more flexible reimbursement and payment models. Learning the lessons of the last couple of years, as well as being mindful of the newer financial forces in play changing the landscape, should allow us to better accommodate now all those individuals who avoided timely, preventive care during the pandemic. Shifted mindsets in primary care and traditional acute care settings can lead to a much more effective and efficient delivery system, enabled by advancing technology and nimble payment structures.

WJH HEALTH:

Patients have been lulled into reliance upon a backstop system that was never designed to always support the enormity of all conditions for all people. Insurance programs have been shifting the responsibility of personal health and the costs for episodic or chronic illness to manage the increasing demand. Soon, either individuals or an institution will assume responsibility for the entire continuum of wellness and sickness. The less expensive version is personal responsibility.



The new mindset has to engage consumers as active participants and no longer rely on patients to ‘come to us’ if they are sick. How ‘well care’ is incorporated into our current continuum and how our health systems remain profitable while keeping patients ‘out of hospitals’ will be a key strategy shift of the next century



**Kevin Meek, RN-BSN, BA, MHI, EDAC, FACHE,
Haskell Healthcare Consulting**

Q 4

How can you address Omnichannel Consumerism to support your clients/owners?

Independent Health Advisor:

THERE IS MORE THAN ONE PATH TO CARE -Consultants and tech providers must first consider technology can reduce or eliminate the excess phone hold times to gain initial access to care. Both need to understand that there are different segments of patients knocking on the digital door and some don't want to talk to a person but want to interact with your platform. Beware of the consultant that says we can solve all your problems. The current labor shortage hold times and quality call center employees need digital assistance. Healthcare systems and their consultants now must find a balance to achieve digital harmony by closing the initial connectivity gap with EMRs

POWERING A BETTER WAY - a consultant's mission is to help the provider increase access, address health equity, and reduce the friction in various patient engagement scenarios, including virtual and digital-first care. By providing a critical infrastructure layer that simplifies the provider, location, and care coordination (through robust proprietary algorithms, automated workflows, and a companion analytics layer), such will increase appointment volume translating into meaningful growth and revenue for the hospital systems.

Haskell Healthcare:

While omnichannel Consumerism is something to consider, there are still far too many consumers who do not feel an omnichannel model provides them with the highest level of specialty and expert care when needed. For this, building and creating a solely omnichannel approach could pose a challenge. However, groups like Kaiser and others have been able to create channels of Omnicare while also providing off channel access to specialist and critical providers – so the model is possible, but requires a large managed care population supported by a large employed physician profile network.

MillerKnoll:

In terms of connecting with patients in an omnichannel manner, we support clients in several key ways. We are well-versed in the academic literature to provide evidence-based designs for new sites of care and conduct our own design research. Because brand becomes critical in an omnichannel consumer model, we provide consistent, client-branded interiors across the full spectrum of care sites and have the manufacturing and distribution

capability to do so at a nationwide scale and pace. And because our business extends from the factory to the workplace to the classroom to the hospital and clinic to the home, we actively explore and design for health and care in novel settings with novel means, bringing those insights to our clients.

Rule of Three:

First, we must agree on what this new healthcare term really means, as it has yet become part of the everyday vocabulary like so many others. Omnichannel care is all about allowing the individual (patient, member, fiduciary, consumer, employee) to take more control of their care no matter what the setting. As we continue to serve those organizations (e.g., Walmart, Walgreens) that have dedicated omnichannel strategies, they embrace that care delivery assets need to include both physical and virtual, with technology and digital enablers to streamline communications and access surrounding care being received/requested.

Increasingly, we strive to bring and support innovative techniques emerging across traditional and non-traditional healthcare organizations and practices, as well as progressive methods needed for providers/plans to achieve reimbursement success, while focusing in employers on appropriate omnichannel initiatives. Organizations across healthcare must embrace the need to follow individuals longitudinally, no matter where they are in their care journey (e.g., acute, ambulatory, specialist, home), streamlining the experience and allowing for two-way communication between providers and individuals to ease the historic burdens of understanding care choices, quality, and access points.

WJH HEALTH:

First, recognize that it exists. Consumers are expecting that a health services provider (hospital system, retailer, insurer) relates to all the same data, and their convenience and diagnostic accuracy are paramount. Don Berwick once said that we do not have a variability problem, but a diagnostic rigor problem, which leads to unnecessary tests, procedures, and treatments – all of which are exacerbated by defensive medical practices. This is a basic relationship value question – those who own the routine and have systems for the complex will own the patient and revenue relationship.

Q5

In regards to focusing on Healthcare Facilities and Technologies that improve patient experience and outcomes, sustainability and environmental awareness are critically important issues. Health is a central concern and indicator of sustainable development and productivity for our country (and the world). Do you think leaders within healthcare need to rethink their approaches to result in positive impacts to planetary health and what might this look like?

Independent Health Advisor:

Thinking outside the tech stack to speed up the path to initial care and coordination of PCP booking specialist appointments. Compressing the overall care time thru speedy coordination and confirmation of services like appointment requests at the Hospitals main point of care within call centers and in person intake areas inside the hospital would be greater served being able to deflect digital services that can be serviced with less direct customer engagement.

Haskell Healthcare:

One of the largest impact that will continue to shape care from the local community to across the world, is a continued focus on wellness over sick care. Wellness must become the proactive approach to care as we move away from a 'sick care' model. Engaging the population in personal baseline health analysis, prophylactic and preventative treatments, and lifestyle modifications to improve our societal overall wellness will shift the paradigm from sick to well care. How this type of 'well' care is incorporated into the current continuum and how health systems remain profitable while keeping patients 'out' of hospitals and care settings will be the key strategy shift of the next century.

MillerKnoll:

Because human health hinges upon planetary health, the industrial impacts of healthcare must be considered. For our part, this happens in two ways: materials and reuse. We've found that 80% of a product's sustainability is determined during the design process. By elevating the importance of sustainability from the very beginning of a product's life, leaders can demand inherent sustainability. Equally important is a focus on reuse, which is not only determined during product design, but also during interior design and specification discussions. Leaders can focus on pivoting to prioritize 'multiple use' plans, not 'single use', for chosen products and design, such as specifying how and where casework configurations will change according to anticipated operational needs. Such an approach alleviates burden on the planet and the wallet, while giving operations and facilities teams flexibility.

Rule of Three:

Evolving our care environments is a critical element of preparing for the trends previously mentioned. Said

differently, with the increased importance and relevance of primary care, integrated care delivery models, and the rise of value-driven activities, the evolution of the physical care space needs to be seen as a fundamental activation mechanism for these industry shifts. Team-based, integrated delivery models have emerged around the country, requiring flexible and creative physical spaces for providers to collaborate and individuals (and their families) to be seen as an active participant in the care delivery process. Moreover, outside of the care delivery physical space, environmental factors are increasingly seen as essential elements driving care choices, i.e., exposure to allergens, climate considerations, home/living settings. This plays out not just in medically served communities, but often in medically underserved communities where socio-economic considerations impact care choices, access options, and physical/behavioral dynamics. Increasing the mindfulness of all environmental considerations, both in care settings and those that bring individuals in for care, will meaningfully shape how we think of healthcare in the future.

WJH HEALTH:

We are all citizens of multiple and increasingly expansive realms – ourselves, our families, our work, our communities, and our world. Most people are concerned with the closest ones. The role of the leader is to survey all realms and improve their futures. Individuals seldom shape global issues – this requires a collective response, and that is difficult. I suspect that most do not have the bandwidth to appreciate their contribution to or from such macro issues or the messy consensus-building required of disparate stakeholders in a collective response – governments have overwhelmingly demonstrated this. A question for leaders is, "Are my organization's actions contributing to the problem that we're claiming to be solving?" First, do no harm.



Shifted mindsets in primary care and traditional acute care settings can lead to a much more effective and efficient delivery system, enabled by advancing technology and nimble payment structures.



Josh M. Berlin, JD, Rule of Three

FINAL THOUGHTS

If you have read much about Amazon Care, you will know that the focus is on the customer experience. Much like Amazon Prime. Amazon Care is all about bringing on-demand urgent and primary care to the consumer – everywhere. And it is not just Amazon. From Walmart to CVS to Best Buy, retailers who have high levels of customer satisfaction will be able to make great strides in the omnichannel Delivery of Healthcare services. The ultimate question to answer is: What is your role in making an impact on more positive outcomes in either the Patient Journey or your OWN journey as a patient? We are all consumers of healthcare at one point or another in our lives. We have a responsibility to ourselves and our loved ones to play an active role in our own healthcare journey. For those of you planning out what facilities will be needed in the future and how they will be built or how to better deliver healthcare services inside facilities, the journey ahead must be an iterative one but also one of excitement and opportunity. Thank you to everyone who contributed to this paper and to all readers. We hope you learned something new. Please feel free to share the white paper with others so that collectively, we can arrive at more ideas and better solutions to improve healthcare outcomes.

RESOURCES

- [The Future of Healthcare: 2022 Hospital Vision Study, Zebra](#)
- [Smart Hospital Concept, Siemens](#)
- [Global M&A Report 2022 Bain & Company](#)
- [Omnichannel Healthcare Experience Report 2021, Avtex](#)
- [RoboGlobal Q3 in Review: investing in innovation](#)
- [Partnering with people isn't a bad thing](#)
- [Clinic 20XX: Designing for an Ever-Changing Present \(A COVID Era Study\)](#)

THOUGHT LEADER ORGANIZATIONS

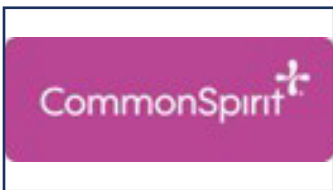
HOSPITALS



Headquartered in Altamonte Spring Florida, AdventHealth was founded in 1973 to support and strengthen the Seventh-day Adventist health care organizations in the Southern and Southwestern regions of the United States. Today it is a national leader in quality, safety and patient satisfaction, comprised of 46 hospital campuses and nearly 77,000 employees.



Children's Health is committed to making life better for children. As one of the largest and most prestigious pediatric health care providers in the country and the leading pediatric health care system in North Texas, Children's Health cares for children through more than 750,000 patient visits annually. The Children's Health system includes its flagship hospital, Children's Medical Center Dallas, as well as Children's Medical Center Plano, the Children's Health Care Network, specialty centers, rehabilitation facilities and physician services. Children's Medical Center Dallas continues to be the only North Texas hospital to be ranked in 10 out of 10 pediatric specialties by U.S. News & World Report. Through its academic affiliation with UT Southwestern Medical Center, Children's Health is a leader in life-changing treatments, innovative technology and ground-breaking research. This affiliation led to establishing the Children's Medical Center Research Institute in 2011, committed to pursuing research in regenerative medicine, cancer biology and metabolism.



CommonSpirit Health (CSH) is one of the largest nonprofit health system in US and as a mission-driven organization, we seek to weave better health into every part of our communities so that more people and places can prosper. Only when our health is strong can we begin to grow stronger as a community.



Founded in 1916, Lee Health is one of the largest public health systems in the U.S. and one of the largest not-for-profit public health system and Safety Net Hospital in Florida. We have four acute care hospitals and more than 14,000 employees. We have more than 1.5 million patient contacts each year.



The Mayo Clinic is a nonprofit American academic medical center focused on integrated health care, education, and research. The practice specializes in treating difficult cases through tertiary and destination medicine.



We are an integrated system of physician practices, hospitals, outpatient centers, and more – each element committed to delivering a remarkable healthcare experience for you and your family. With world-class technology, personal connections, and care that's easier to access and understand, Novant Health is with you every step of the way on your journey to health and wellness.



Founded in 1950 by Variety Clubs International, Nicklaus Children's Hospital is South Florida's only licensed specialty hospital exclusively for children, with nearly 800 attending physicians and more than 390 pediatric subspecialists. The 309-bed hospital, known as Miami Children's Hospital from 1983 through 2014, is renowned for excellence in all aspects of pediatric medicine, with many programs routinely ranked among the nation's best by U.S. News & World Report, since 2008. The hospital is also home to the largest pediatric teaching program in the southeastern United States and has been designated an American Nurses Credentialing Center (ANCC) Magnet facility, the nursing profession's most prestigious institutional honor.

THOUGHT LEADER ORGANIZATIONS



At Stanford Health Care, we seek to provide patients with the very best in diagnosis and treatment, with outstanding quality, compassion and coordination. With an unmatched track record of scientific discovery, technological innovation and translational medicine, Stanford Medicine physicians are pioneering leading edge therapies today that will change the way health care is delivered tomorrow.



Trinity Health Michigan is a leading health care provider and one of the state's largest employers. With more than 24,000 full-time employees serving 29 counties, Trinity Health Michigan is composed of eight hospitals located in Ann Arbor, Chelsea, Grand Rapids, Howell, Livonia, Muskegon, Pontiac and Shelby. The health system has 2,233 beds and 5,290 physicians and advanced practice providers. With operating revenues of \$4.1 billion, Trinity Health Michigan returns \$175.6 million back to their local communities each year. Together with numerous ambulatory care locations, three home health and hospice agencies and 22 senior living communities owned and/or operated by Trinity Health, Trinity Health Michigan provides the full continuum of care for Michigan residents.



The University of Miami Health System delivers leading-edge patient care by the region's best doctors, powered by the groundbreaking research of the University of Miami Leonard M. Miller School of Medicine. As South Florida's only university-based medical system, UHealth is a vital component of the community that is leading the next generation of health care.



For more than 100 years, University Health has been here to heal, to improve health, to lead, innovate and advance the practice of medicine. Above all, the people of University Health are here to serve all who entrust us with their health and lives with the highest-quality care, respect and compassion. As the only locally owned and operated health system in San Antonio and Bexar County, University Health takes to heart its responsibility to serve the health needs of our community today and into the future. Our mission is to improve the good health of the community through high quality compassionate patient care, innovation, education and discovery.



UNC Health is a not-for-profit integrated health care system owned by the state of North Carolina and based in Chapel Hill. UNC Health provides comprehensive patient care, facilitate physician education and research excellence, and promote the health and well-being of all North Carolinians and others we serve.

ARCHITECTS | ENGINEERS



BSA LifeStructures was founded in 1975 from the partnership between an architect and an engineer, unusual and visionary for its time. Today we exceed this vision in creating facilities that support and enhance the practices of healing, learning and discovery as well as the people dedicated to them. With a balanced blend of creativity, evidence-based design, expertise, and courage to be changemakers, we create inspired solutions that improve lives.



HKS is a global firm of architects, designers, advisors and makers driven by curiosity and devoted to creating places that combine beauty with performance. While we have accumulated a vast library of knowledge over our 83-year history, we learn from every new assignment. Our 1,400 people in 25 locations are united by our shared culture and sense of purpose. In partnership with each other, our clients and our partners, we craft powerful ideas and solutions to create places that stand apart.

THOUGHT LEADER ORGANIZATIONS



VPS Architecture is a certified Women’s Business Enterprise (WBE) design firm headquartered in Evansville, Indiana, and has been around since 1960. We are dedicated to Exceptional Execution in Design. Our team strives to serve the unique needs of each individual client with a collaborative approach to experiences and emotional connections to place. The core values that guide us daily are: Grit, Inspire, Respect, and Collaboration.



LS3P celebrates 59 years of design excellence in 2022. Established in Charleston in 1963 by Frank Lucas, the firm has grown from a small solo practice into a regional firm with a national reach. With 11 offices and over 400 employees, LS3P is deeply committed to the communities we serve, and we are proud to have earned over 650 design awards in diverse practice areas.



Founded in 1981, Perkins Eastman is a global healthcare design firm with 26 offices and 1,100 team members. Our ethos is “Human by Design”. This is our reason for being, and drives our team in all endeavors. Design can have a direct, positive impact on people’s lives. We design places and spaces that put the user at the heart by employing best practices, sustainability, and a thorough understanding of our clients’ missions and operations. Our diverse teams partner with our clients globally to deliver next-generation projects that are uniquely suited to users who will live, work, play, learn, age, and heal within the environments we plan and design.



IMEG is a leading U.S.-based engineering design firm delivering a rare combination of the broad expertise of a national leader with the personal relationships and deep collaboration of a local firm. The firm is 100% employee-owned and results-driven with a passion for transforming environments and communities through high-performance design and infrastructure. With more than 60 offices and 1,800 team members, IMEG serves regions and markets with full-service, in-house engineering design. IMEG is also a Top 5 Healthcare Sector Engineering Firm (BD+C) and ranked #71 on ENR’s Top 500 Design Firms list. For more information, visit imegcorp.com.



TLC Engineering Solutions, Inc. is a recognized leader in healthcare engineering, consulting, and energy services. Headquartered in Orlando, Florida, TLC has 18 offices throughout the United States and a team of more than 425 professionals. Whether designing a new hospital or renovating a behavioral health facility, TLC serves as a collaborative engineering partner in developing building solutions that benefit patients and clinical staff. The firm integrates resiliency into its designs, keeping hospitals operating safely while contributing to patient comfort.

OWNER’S REP | REAL ESTATE | PROJECT MGM’T



ADAMS is an independent, objective consulting and program management firm exclusively focused on capital project planning and delivery. ADAMS has built a reputation on providing the highest quality services, and to date has completed over 900 programs, 36.2 million square feet and approximately \$25 billion in capital programs. In addition to Program Management and Owner’s Representation Services for capital construction projects, ADAMS also brings expertise in the areas of master planning, property condition assessments, demographic analysis, strategic planning/cost savings, medical equipment planning, and transition and occupancy planning.



We are a company that provides expert and insightful solutions to guide developers, business owners and real estate/facility leaders to make smarter, more strategic decisions saving time and money in construction projects.

What Makes Us Unique?

Our extensive background in design, combined with 40 years of industry experience as well as our flexibility to manage all stages of projects – from development and design to construction management – means we bring advantages to projects no one else in the industry can. We call it the DCI Advantage.

THOUGHT LEADER ORGANIZATIONS



HMA is an independent, national research and consulting firm specializing in publicly funded healthcare and human services policy, programs, financing, and evaluation. We serve government, public and private providers, health systems, health plans, community-based organizations, institutional investors, foundations, and associations.



JLL (NYSE: JLL) is a leading professional services firm that specializes in real estate and investment management. JLL shapes the future of real estate for a better world by using the most advanced technology to create rewarding opportunities, amazing spaces and sustainable real estate solutions for our clients, our people and our communities. JLL is a Fortune 500 company with annual revenue of \$19.4 billion, operations in over 80 countries and a global workforce of more than 98,000 as of December 31, 2021. JLL is the brand name, and a registered trademark, of Jones Lang LaSalle Incorporated. For further information, visit jll.com.

CONSTRUCTION LEADERS



Haskell delivers more than \$1 billion annually in Architecture, Engineering, Construction (AEC) and Consulting solutions to assure certainty of outcome for complex capital projects worldwide. Haskell is a global, fully integrated, single-source design-build and EPC firm with over 1,800 highly specialized, in-house design, construction and administrative professionals across industrial and commercial markets. With 20+ office locations around the globe, Haskell is a trusted partner for global and emerging clients.



JE Dunn Construction, founded in 1924, is the 10th largest healthcare builder in the United States, according to Modern Healthcare, with offices in 26 locations. Our vision is to be an indispensable business partner for our clients by first understanding their purpose, goals and customers and then delivering transformational solutions with certainty of results. We maintain a commitment to our clients and their building goals while being true to our guiding principles – the philosophy of our business operation which is both family and employee-owned. JE Dunn's purpose is to enrich lives through inspired people and places.



More than 135 years in the making, Skanska is one of the world's largest development and construction companies with healthcare expertise spanning a comprehensive range of sizes and complexity— from small renovations to new hospital construction. Together with our customers and the collective expertise of our 7,300+ teammates in the U.S. and 30,000+ globally, we create innovative and sustainable solutions that support healthy living beyond our lifetime.

THOUGHT LEADER ORGANIZATIONS

STRATEGIC & PRODUCT CONSULTANTS

INDEPENDENT HEALTH ADVISOR

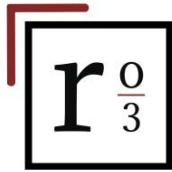
As an advisor/strategist, it is my role to connect the digital dots for health care leaders, helping providers, payers, health systems, and their partners understand the value of the newest versions of digital healthcare from CRM health clouds, patient & member engagement, and care management. Through my years of experience, I understand how to connect and leverage the technology. Starting with the birth of SMS messaging, one must now leverage digital tools as they evolve to provide more effective access to care, digitally enabling providers with all the interoperable HIPAA compliant technologies and platforms. Creating innovative solutions that our clients use to unlock data and accelerate business growth is what we strive to achieve.



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MillerKnoll

MillerKnoll is a collective of dynamic brands that comes together to design the world we live in. From the spaces we make that help us live and work better, to how we manufacture our products, to the ways we solve challenges facing our customers and global community, design is our tool for creating positive impact. Together, we form an unparalleled platform for building a more sustainable, caring, equitable, and beautiful world.



We are healthcare advisors, collaborating with organizations across the industry's landscape, as they navigate today's complexities and achieve progress toward a high-value and sustainable tomorrow.

Decades of experience in the industry have shaped our perspectives on how companies should operate in the current state, while maintaining an eye on the future. We bring a flexible and thoughtful approach, with each project tailored to meet the distinct needs of the organizations we are humbled to serve.



WJH Health inspires healthcare leadership teams, by shaping their future places of care. The firm's cross-disciplinary approach to bold ideation leads healthcare leaders to accelerate progress by creating frameworks that attract the future through inquiry within organizations, and by approaches outside of healthcare's historical channels. Across the globe, it resolves the nexus of mission, health, performance, and experience for future-oriented health systems.



Established in 1996, NOVA was originally founded to provide Environmental Consulting, Geotechnical Engineering, and Construction Materials Testing and Inspection services to the design and construction community. Currently, NOVA employs 535+ personnel in 18 offices serving clients throughout the southeastern United States and beyond. Our professional staff consists of registered engineers, geologists, scientists, certified industrial hygienists, ICC inspectors, building officials, laboratory specialists, NICET-certified technicians, AWS-certified welding inspectors, and specialty consultants. Our primary passion is to provide timely-valued consulting services for our clients' building and infrastructure projects. We strive to provide workplace diversity, collaboration, and solutions with a focus on safety and sustainability which result in quality solutions to project challenges. We support a stimulating and inspiring work environment where our employees are rewarded for their efforts and achievements and are mentored for the future.