3rd Nashville
Hospital, Outpatient Facilities & Medical Office Buildings Summit
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RECAP & TAKEAWAYS

# Healthcare Hits the Reset Button

Planning, Real Estate, Design, Construction, and Operation of
Hospitals | Clinics | ASCs | MOBs | Retail | Telehealth
Hospital @ Home | Mobile Care | Non-Clinical
Academic & Research Facilities

This In-person Education and Networking Event is Presented by
Corporate Realty, Design & Management Institute
Association of Medical Facility Professionals – Nashville Chapter
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## Agenda

- Future of Ambulatory Care Facilities
- Integrating PDC & Facilities Management - Lessons Learned During and After COVID
- Spotlight Sessions – Money Saving Solutions
- Evolution of Innovation in Healthcare Design & Construction
- Get Smart: New Technologies are Changing How You Can Manage Healthcare Facilities
- Spotlight Session – Money Saving Solution
- Healthcare Trends: Emergence of AI to Improve Patient Outcomes
- Designing for Security in an Era of Increased Violence
- Traps to Avoid When Evaluating Technologies for Your Next Project
- Braving the Cost Escalation Minefield

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Reported by Rebecca Elizabeth Nunes, a Nashville based freelance writer,
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## Future of Ambulatory Care Facilities

*Curtis Skolnick, Principal, ECG Management Facilities*

- **Hospital-Based Outpatient Visits Continue to Rise** with 50% growth in visits over last 20 years. Since COVID, there has been a steady increase in outpatient visits while inpatient, observation, and ED volume has not fully recovered.
- **Telehealth.** Virtual visits were basically non-existent before COVID, but have increased dramatically since 2020. An additional 28% increase is predicted by 2033.
- **Ambulatory Constructs of the Future.** Key initiatives for health systems include regional enterprise of scale, or their ability to expand; Focus on the consumer with the prioritization of easy scheduling, convenient access, and low-cost options; the acceleration of digital health adoption; and an emphasis on a distinct brand presence.
- **Why the shift of care to alternate sites of care?** There is a shift from HOPD and On-Campus to other sites of care. This is due to the expansion of CMS ASC covered procedures, insurance plans steering care away from hospital-based services, care innovation such as minimally invasive techniques, easier access to lower cost venues for care (including virtual options), and growth in the number of ancillary services that are ordered.
- **Hospital-centric to Consumer-centric**. Care used to be more hospital-centric with patients traveling to health system assets. Today it is more provider-centric, with patients being directed to health systems and growth of systems seen through provider integration. We are headed towards consumer-centric with care and information being directed right to the patient, and growth of systems being measured through scale and capabilities.
- **Consumer-Driven Patient Access,** or the ability for a consumer to find information, locate services, and secure care in the clinically appropriate setting with the right provider in a timely manner. Consumers want their care to be convenient, available, and affordable.
- **Ambulatory Facility Planning.** We're seeing a shift towards prototyping, which increases operational efficiencies, minimizes and controls cost, and makes construction easier.
- **Multispecialty Center Prototype Strategy.** Design shifts include an increased focus on designing around operations, utilizing multi-disciplinary shared clinic space, and creating shared flex spaces for virtual visit use. These developments are designed to feel more like a hotel lobby.
- **Large-Scale Developments**. We're seeing an increase in 'hospitals without beds," such as multispecialty short-stay surgical facilities, urgent care facilities, nutrition services, PT. These developments are designed to give the feel of a hospital, but with increased efficiencies and better patient experience.

## Integrating PDC & Facilities Management - Lessons Learned During and After COVID

*Mark Schulz, Regional Director of Facilities, Medxcel*

- **Challenges During Covid:** Major challenges included the inefficiencies of the redundancy of multiple teams across the system tackling similar surge problems; compliance issues not being taken into account; non-standardization of temporary measures; highly stressed staff at the local level; and hospital leadership wanting immediate solutions.
- **The First Hours:** Challenges revolved around not having answers. The number of patients quickly outpaced the staff's ability to develop solutions. More questions than answers – would HEPA filters suffice? Was the virus airborne?
- **The First Week:** Facilities tasked with understanding and creating negative pressure rooms and negative airflow rooms and developing plans for cleaning/disinfecting spaces. Meetings became virtual – a new frontier for most facilities' employees. Decision makers are writing policies to reflect the availability of PPE.
- **The First Month:** Priority shifting to acquiring and understanding the best way to use equipment and resources, such as filters, UV lights, air scrubbers, PPE, specialty rooms, etc. What was effective and what made people feel better? A lot of decisions countered the traditional way of operations.
- **The First Year:** Shift to the development of parking lot triage/testing/treatment, implementation of high flow O2 devices. Priority shifts to setting up vaccination clinics.
- **National PDC (Planning, Design and Construction) Engagement:** Creation of a Facility Assessment and Support Team (FAST) to streamline decision making by including key members from facility management, safety, regulatory compliance, and infection prevention. This helped the team as a whole address not just the issue, but the whole picture – how do we reorganize to give both patients and employees the space they need to feel safe?
- **PDC Guidance.** Post-Covid it was important to develop plans to reverse temporary changes. PDC supplied advice on prioritizing projects and streamlining the facility updates.
- **Lessons Learned:** The importance of structured, organized response; leveraging a multi-disciplinary SME approach for temporary pandemic facility modifications; creation of a library/database to keep track of what worked and implement thoughtful decisions into new construction.

## Spotlight Sessions: Money Saving Solutions

*Gene Jones, Allegion Healthcare*

- **Cost Savings Around Space:** Sliding doors save space and that equals dollars. Sliding doors have primarily been used in the clinical, medical office, and outpatient centers spaces. They are now being used in patient restrooms, x-ray rooms, acute care patient rooms, etc.
- **Sliding Door Advancements:** Improvements and advancements include automatic/touchless operation, STC 34 performance, smoke ratings, air infiltration/exfiltration, and access control integration, allowing for automatic or manual controls, and improved service life.
- **Case Study:** Providence Health Gately Ryan Building in Renton, WA was able to include an additional room for every 11 rooms due to the elimination of a traditional swing path. Providence has developed a standardization and GPO program to maximize this ROI from the space savings of sliding doors.

*Gwen Sandlin, Mohawk Group*

- **Overcoming Market Challenges:** Healthcare is rapidly evolving in post-pandemic world – staff shortages, supply chain delays, revenue challenges are all part of this ever-changing patient care delivery system. Mohawk manufactures more than 80% of its hard- and soft-surface products in the US, often reducing or eliminating project delays.
- **Product Innovation:** Products are specifically designed for a healthcare environment. Duracolor Tricor yarn system has a lifetime warranty for stains and spills. The EcoFlex One flooring system requires little to no moisture testing, eliminating an often timely and costly process that can lead to project delays.
- **Combing Design and Innovation:** Mohawk designs products that look good and perform at the highest level. A leader in developing sustainable products, Mohawk has a program to take back old products to use them in the manufacturing of many of their soft-surface products.

## Evolution of Innovation in Healthcare Design & Construction

*Walter Jones, National Healthcare Leader, Barton Mallow Builders*

- Innovation takes a lot of investment. Asking people to change what they've been doing is challenging. Any type of innovation, any kind of change, is going to be difficult. Innovation also has varying degrees or scalability. Innovation can happen incrementally.

*Chris Moore, Director, Barton Mallow Builders*

- The best solution to innovation is for innovation to happen right where the work is occurring, with the people closest to it, and having those people help to create training content, polish that innovation, and then scale it across your organization. Most people in the corporate world are optimizers. There are very few entrepreneurs, and even fewer visionaries. As you're building your team, remember that you need characteristics of each.
- It is known that construction is not the most efficient or innovative industry. There are a lot of investors looking at construction and putting dollars into new technology. If you don't try to keep up, you're either going to get bought out by someone who did, or you're not going to exist.
- Don't be afraid to fail a little bit. And don't be afraid of risk because technology increases in increments. Take the first iPhone – it was an innovation but was it anything really new? The glass existed, the phone existed, music existed, the camera existed. Someone just took all those things and slapped it together and said here you go—and think about how that revolutionized our world today. That's how innovation is going to happen in all of our different industries. It's going to converge over multiple little things coming together that create a package that makes change and revolutionizes and makes a value proposition for each one of our businesses.
- AI is the next big wave of technology that's occurring and it's here to stay. Some problems with it include the fact that a lot of our information is confidential. We're seeing a lot of companies that are creating their own AI; data mining their own information to help make better decisions.
- Another good example of AI is 360 photos. It's a great inspection tool, a good tool for quality management and a good tool for facilities to understand what's in the walls once the contractors have finished the project. Now these 360 photos paired with AI are becoming smart. These tools are now able to say, "Okay, how much mud is on the dry wall? Is there tape on the dry wall? Is there insulation on the duct?" It's not like comparing it to the three dimensional, coordinated models that we use for fabrication, but it actually understands what it's looking at, and it's providing data as far as schedule, pay applications, those types of things.
- In summary: Don't be afraid to try new things, become an innovative technology enabled workforce. Do it, but use some risk factors to control, use some standard things that you've done, but pair it with new innovations to mitigate risk.

*Christy Hackard, RN-BSN, CLSSBB, MPA, Partner + VP Capital Readiness, IMH Healthcare*

- **What is the enabler that you're looking for?** Understanding, documenting and being intentional about capturing decisions and identifying what the team is looking to accomplish with the introduction of innovations is critical.

- **Focus on ownership**. As technology and Equipment become intertwined with facilities and operations, ownership becomes less black and white, especially regarding system-wide implementations. Who is driving policy?
- **Focus on decision-making.** Many innovations are introduced early in the visioning and programming process, but as we counsel the organizations through their operations innovations, we need to make sure we're being intentional about decision making and ensuring that we have the right people in the room to inform decisions.
- **Care model innovations:** Often considered big disruptors for staff. Example is the transition from a traditional labor and delivery model where the mother moves from different departments as they progress through their birth journey to an LDRP model where the patient doesn't move and the care is brought to them. The implications on the operations side are significant. You're not just building a building that facilitates that, but ultimately it has to be operationalized which means training nurses.
- Additional **Care Model Innovations** examples include unit type changes such as transitioning from a step-down model where the patient moves from critical care, down to progressive care, to med surge and then out the door, to a more adaptable model. These changes drastically impact day-to-day operations.
- **Financial Implications.** When you change a care model in a facility there's a downstream effect of what's happening to the other parts of that healthcare system. It's critical to be prepared for downstream effects at a strategic level.
- **Process Improvement.** Model changes on a small scale to prepare staff for new environments. Adapt current buildings to mimic the new facility in order to prepare the staff.

*Steve Houston, Ph.D., PE, LEED AP, Senor Director, LIFTBuild*

- **LIFTBuild:** New technology that allows for construction to go top down, instead of from the ground up providing velocity, value, and certainty in project delivery.
- **Advantages:** Reduced workforce, better quality management, safety (no cranes), ability to work on tight sites because the ground floor becomes the staging site. Cost advantage with economy of scale means that anything more than 12-14 stories is where you start seeing cost savings.
- **Approach:** The whole building is designed before construction - the math, means and methods of construction. It doesn't use columns – instead they use structural spines. Once they complete a floor assembly it is sent up with its facade on and locked into place. This way of moving material and finished product vertically is about 300x more efficient than a tower crane. Projects that would have normally taken about 48 months are completed in 18 months.
- **Design:** LIFTBuild uses a proprietary design automation process to bring in proprietary specifications and structural requirements and facade requirements and fit out requirements, creating over 30 variants of the building. They can produce upwards of 2000 designs in about 30 minutes and evaluate them through an automated design and filtering process, within that same time frame.
- **Healthcare Specific Advantages:** The more complex the building, the better this system works. Everything is done at the ground level and special equipment is installed in a very controlled environment. The lack of columns makes the building completely reconfigurable at any time in the future.

# Get Smart: New Technologies are Changing How You Can Manage Healthcare Facilities

*Joe Metcalf, Regional Leader Digital Buildings & General Manager, Schneider Electric*
*Chad Sullivan, PE, CEM, Director, Automation Services | Health Trust | FacilitiGroup*
*Ryan Pease, Schneider Electric*

**Ryan:** Smart Buildings are what everyone's talking about in construction – what does a Smart Building mean to you?

**Chad:** I'm going to use a metaphor – your building needs more than a GED. You need to get it to a bachelor's degree level; you need standardization. You need more than a building that can just operate itself, even if it has a good technical background -- it's waiting to be molded.

**Joe:** When you build out a Smart Building it's really in the essence of an experience – I think of it as 3 types of experience – one is the patient experience, one is the facility manager's experience and the third is the CEO experience. The task at hand is aggregating the data and then doing something with it. Automation systems are a simple place to start and then you have ancillary systems - nurse call, patient wandering, infant abduction, etc., - and you need to integrate them into a base system that can tell you something. Data that backs up the next capital improvement – that's what I think about a smart building.

**Ryan:** Chad, you talked about some of the stuff you did from when you first started, what's the biggest lesson you've learned since you started?

**Chad:** A lot of ours has been about getting too far ahead of ourselves on projects. You can build out a smart building that gives you the information, but you also need to have a plan for what you're doing with that information. It's great if your system can tell you that you need to replace 15% of your air handlers, but if you say "well I didn't plan for that kind of capital" – obviously that's a problem. And then all of that investment that you put in on the front just goes to waste and you can't do anything with it. So, figuring out your boundaries – maybe you have to go with an iterative approach. HCA has gone both directions. We've gone top down with full replacements and upgrades and we've also worked with the building automation systems to bring in an iterative approach. A great first step to finding out if your building is doing what you want it to – is it reacting?

**Joe:** Where do we see AI?

**Chad:** AI and Machine Learning are a big thing. Big data. Hard to wrap your head around as far as what it's going to be. If someone can look at a system and say "I have a set of rules I think it should follow," the AI system can do the number crunching for you. Build in as much of that as you can. Everybody in here got their first pop in their career by either figuring out how to tell the story of how you did a really good job, or your boss figured that out for you and put you in a position where you could. It's the same thing with the building – If I'm not measuring what this building is doing, I need it to tell me. If neither of us are doing that, it just lives there. We come in, the lights are on, it's fine. And we go from there.

**Ryan**: In the design space, how early on are you having the integration of your technology conversation? One year before the build? After the build and nothing is working? Somewhere in between?

**Chad:** If you're trying to focus on patient experience, it needs to happen at the front end. Schneider has a great system that integrates everything and it's already there on day one – that's great. That gets CEOs riled up.

**Ryan:** What are some of the software collaborations you've seen in the technologies in the hospital space?

**Joe:** We've spent a lot of time working with hospitals. We did the PennMed building, a public/private partnership that was very well executed. They bought a lot of "stuff," what does that mean? It was about those 3 experiences. There is a TV screen at the end of the bed with all the information, for nurses, doctors, Netflix for the patients. Info on medications. A lot of integration that we took to heart – shade and lighting control. Temp control. The best scenarios that I've seen do some sort of packet of those things. Some of them just do security systems.

**Ryan**: How do you quantify ROI when you're making these large investments into technology?

**Chad:** ROI is extremely tough. From an energy standpoint, even coming up with a good number like a 5-year payback doesn't always excite the C-Suite. Early on it became about trying to figure out how to get it down to somewhere that it can make a pop. Narrowing it down to just hallways, for example. If you're a facilities manager and you haven't talked to your IT directors about what's hanging on their walls, you should. IT risk is a huge risk. They want to close as many of those gaps as possible. IT has money. If you get them involved that's one good track. Environmental performance is coming up a lot – carbon accounting. Getting senior leadership and investors excited about that is a huge way to bring those ROI thresholds into a more reasonable range for our touch projects.

**Ryan**: Interesting you bring up sustainability – of the Fortune 500 companies, 98% have sustainability in their future mission goals, but we found that almost none of them have a sustainability plan. Put it in the goals, make the shareholders happy, but you don't have to do it. Joe – you want to speak to that?

**Joe:** Sustainability is at the core of what Schneider Electric is doing – facilitating conversations with owners and architects, engineers – we're out there talking about sustainability. And it is a metric that everyone is measured on – but what does it even mean? What are we doing with it? From our side we're really just trying to give the data points to the right people – get them in the right hands. It's like when you're building your LEED building, you have to get your LEED points – you have to have the right documentation and the right build and it all has to come together. In sustainability you have to have forethought, you have to understand what your building is going to be, the emissions that it's going to produce. But if you don't baseline it from some kind of metric, from an energy savings standpoint, then you're never going to understand what the building is going to become later on from a sustainability standpoint.

**Ryan:** What are the elements that you think are needed to build a successful smart building?

**Chad:** My big thing is the reporting. If you don't understand what your building is doing, it's just sitting out there doing whatever it wants. Your building manager needs to be speaking about your building not like it's an asset, but like it's a living, breathing thing. It has metrics, it has KPIs, it needs to have plans for improvements if it's performing poorly. You have to have some sort of visualization on it. If you aren't using a reporting system that's automatic, you're already behind the curve.

**Joe:** To effectively put in a smart building, it's all about getting your technology partners involved very early. There's a lot of conversation and thought around the visual aspects of the building -- the visual aspects of the entry ways, and the flooring – those details matter. How you feel when you walk in matters. Do you feel safe? Do you feel comfortable in the environment – is it too hot or too cold? To you get the attention that you need? Finding those opportunities to create a space for patients and employees that allows the technology to wrap them into an experience that they're going to desire and make them want to be there. And that only happens if you start planning it at the beginning. I think of it as a hub and spokes model – there's probably a technology provider that you all work with that understands your business and the market and can pull in the right software packages that can work together to create the experience that you're looking for – whatever that might be, every hospital is different. I believe that there needs to be a champion of technology that can really drive that integration.

## Spotlight Session: Money Saving Solutions

*Rick Vance, STARC Systems*

- Setting up Class IV+ temporary walls need to be dustless – no need for tape, no cutting, and single tool installation. Hard barriers are flexible and adaptable to large scale. Hard barriers make patients feel safer and are easier and faster to set up.
- Class IV+ is the first precaution class where negative air is required and must be monitored with a digital manometer and HEPA filtering is required.
- NFPA 241 is for situations where a one-hour (E-119) rated barrier is needed.
- Newest best practice clarification is the Class V rating – precaution class that offers guidance as it relates to the use of anterooms or additional buffer rooms as it relates to construction near the highest risk patients – STARC Systems FireblockWall and RealWall meet those requirements.
- STARC stands for simple, telescopic, airtight, reusable, container
- Three systems in total – LifeBarrier, RealWall, FireBlockWall – FireBlockWall is the only one-hour rated system on the market
- Walls can be cleaned with standard cleaning products
- 100 linear feet of STARC walls reused just 5x saves 9.3 cubic yards and 9 tons landfill waste

*David Harris, Camfil*

- Save money by selecting air filters based on performance, not initial purchase price
- MERV-A (A stands for actual or always)
- Filters that rely on static electricity charges become less effective as air passes through and as particulate builds up on the fibers, losing their ability to trap particulate
- To stop fine particles, you need fine fibers
- Don’t focus on initial purchase price – no need to change 4x a year anymore; reduces manual labor, energy coast, and waste
- 19% of hospital’s energy bills are lighting; HVAC is 50%

## Healthcare Trends: Emergence of AI to Improve Patient Outcomes

*Tod Fetherling, Managing Director, Huron Consulting; Former CEO and Chief Data Scientist, Perception Health*

- Recent Gallup report said that 95 % of Americans surveyed believe that they need transparency and pricing in health care.
- We are starting to see major revolt against healthcare. Medical inflation is continuing to grow at a faster rate than other industry's inflation metrics.
- There's a lot of tension right now between providers, between hospitals and physicians, between payers and providers, and employers and providers. That tension is unhealthy and needs to be solved collectively.
- Regulations in the healthcare industry are second to none and change/alter how care is defined, provided, funded and legally authorized.
- More and more employers are going to self-insured and getting away from the traditional brokerage plans – we'll likely see another huge bump in that over the next two years.
- We have more friction in health care right now than we ever have. There's work to be done in standardizing components in health care. Today, a lot of vendors make money because of complexity, and it needs to be simplified.
- Things are changing and it's because of analytics. What we do in analytics is look for the signals and the patterns. Then we have to take action. If we don't take action the data is worthless.
- Quantum computing and neural networks are what we call structured machine learning. This is how we create models to predict behaviors.
- The next generation of analytics is unstructured learning, where a data set is dropped on the server and the machine runs a hundred million iterations on this data set, and comes back with all the patterns that were found. That's how we start to find things we didn't even know to look for.
- The Relationship between Care and Cost is complicated. Today, the most profitable institutions aren't the five stars, it's the four stars. The best performers have real clinical partnerships with providers.
- All of this data can let us see things that are going on with the patient before the patient even knows they're about to experience that. Instead of thinking about AI as taking jobs away, think about how it's creating a whole new class of health care workers that we can't even envision yet.
- It's critical to have the right facilities in the right location to take care of the right patient, and it also comes down to helping that consumer along their journey and really getting them to the right end point.

## Designing for Security in an Era of Increased Violence

*Ted Hood, Managing Principal, TLC Engineering Solutions*
*David Stewart, AIA, NCARB, LEED AP, Principal, Orcutt Winslow*

- **Increased Risks, Threats, and Challenges.** Communities are struggling with how to deal with increased risk in society, from unintentional automotive accidents to active shooter situations.
- **Physical Design Considerations:** Site design considerations include bulletproof glazing/films (especially at ED entrances), implementing a combination of hard and soft landscaping, hardened entry, protection bollards, and separation from parking and building.
- **Standoff and Parking:** Doctors often want designated parking spots, but that can be a major safety issue, allowing disgruntled patients to find them. Physical barriers prevent automotives from intentionally or accidentally driving into a building. Vehicular circulation should be parallel to the building, not perpendicular.
- **Secured Entry:** Visibility is the most important consideration. Also, important to think about the entry and exit sequence, helping to prevent people who don't need to be in the hospital from entering the building. Most hospitals have 20+ entrances – minimizing access is important. Implementing sally ports is also helpful.
- **Technology Considerations:** Many institutions are underutilizing what they have and not integrating what they can.
- **Visibility:** Bring in the security consultant at the beginning of the design phase. Security shouldn't be an afterthought – lighting and camera coverage should be considered at the same time as design.
- **Video Analytics:** A service that has been on the market for a long time but is largely underutilized. Facial recognition can be used, problematic personnel can be flagged.
- **Visitor/Vendor Management:** Utilize turnstiles and badges that expire.
- **Intelligent Screening:** Eliminates the "jail" feel while still providing increased security.
- **High Risk Areas:** Pharmacies should be equipped with camera coverage, dual levels of security, glass break alarms, motion sensors, duress buttons, and wall hardening.
- **Many security solutions are not pie in the sky –** they are simply being underutilized. Helpful resources with guidelines and recommendations include ASHRM, CDC, NIH, and Homeland Security.
- **Risk Assessments:** Comprehensive team should include architect, engineers, security, clinicians, and IT.

## Traps to Avoid When Evaluating Technologies for Your Next Project

*Brian Weldy, Executive Innovation and Development Leader/Weldy Consulting*

- Over the last two years, we've seen a double-digit percentage increase on electrical power, costing healthcare system dollars they didn't anticipate spending.
- There are hidden charges such as the "demand charge" for commercial customers. It's an extra cost you pay for the capacity that the electrical system is providing you for a specific period. Electric companies are including this cost to pay for upgrades in infrastructure.
- A critical part of the efficiency process is having more sensors to get more information and make better decisions. Understanding how a building is using its energy provides valuable insights into the health of the building.
- **LoRaWAN** is a Low Power, Wide Area (LPWA) networking protocol designed to wirelessly connect battery-operated 'things' to the Internet in regional, national, or global networks. It targets key Internet of Things (IoT) requirements such as bidirectional communication, end-to-end security, mobility, and localization services.
- **Vutility** makes sensory devices that strap onto just the wire inside the electric box and within a few minutes you can monitor power and track how the building is using power over time.
- The healthcare industry doesn't monitor power well. There's benefit to monitoring the power usage of equipment such as elevators, imaging equipment, operating rooms, etc. It helps you to see how they are performing and how they can become more efficient.
- **Machine learning** is the ability of the program to rewrite a software itself based on what it has learned to optimize a system. ML is used to find a way to optimize how a device uses power.
- **AI** is focused around the behavior aspects and what has decided to be done -- AI is trying to work through that problem. AI is using collected information to have it analyzed and come back to you with the answer.
- As an industry, we need to wrap our minds around how we use energy in real times so we can take actions to deal with growing costs.
- We need to develop a new service technician ecosystem. We can't be doing the same maintenance in the same way. People need to be trained to approach maintenance in a better, smarter, and more predictive way.
- If you can first *not* consume energy, that's the best renewable energy that there is –it's the purest form. Start with getting your energy usage as lean as you possibly can, then augment that with renewable energy sources.
- Use ROI instead of payback when asking for projects to be financed – payback is a measure of time, ROI is a percentage. Understand your sales pitch before you make the ask.

## Braving the Cost Escalation Minefield

*Keith Allen, Vice President, Capital & Construction, LifePoint Health*
*Robert Crotty, Assistant VP Capital Productivity & Strategy, HCA Healthcare-Capital Deployment*
*Tammy Moore, Vice President, Property Management, Anchor Health Properties*
*Chuck Rice, Vice President, Facilities Management & Construction, AMSURG*
*Moderator: Alan Whitson, RPA, President, Corporate Realty, Design & Management Institute*

**Alan Whitson:** A lot of things are driving cost. From your perspective, what are some of the common and not-so-common issues you see in this topsy turvy world right now?

**Chuck Rice:** Common issues - labor shortages and supply chain issues. Those things are still driving our projects. The most recent thing that everyone is seeing is cost of money and if we're even going to do the projects or not.

**Tammy Moore:** I would agree with all of that - in operations we pick up the asset whether it's from development or acquisitions and then we implement the business plan, so looking at pain points from this last spring/summer, they have all been related to mechanicals and, while we do predictive analysis when we buy an asset, you can't plan for extreme heats and longer seasons and stressed-out mechanicals. One of the biggest things that we had a challenge with across our company is planning for replacement of Roof Top Units (RTUs). Anything with cooling/chillers is a 21-to-55-week lead time. By the time you put a temporary unit on the ground or spot coolers, you're spending almost as much as you are for the replacement. It's about stepping back and assessing and trying to plan for the next season and get ahead of that, as it relates to mechanicals.

**Robert Crotty:** For us, similarly, I think it's about total productivity— everything that goes into a project including equipment, materials and design. I'm not sure it's really a surprise because total productivity in our country has been on the decline since the mid-sixties and now COVID has amplified that. Our equipment lead times are long, so right now we're having to order our large equipment even before the projects are funded.

**Keith Allen:** Something that's impacted our ability to get projects started is the regulatory landscape. This is a cost to us because we're missing out on revenue on the backend, and also dealing with delayed project approval. From state health to local municipality, the inability to get people to complete plan reviews efficiently makes it challenging to get inspections completed. Some states are doing only virtual and it's taking a year to get a plan reviewed in the front end.

**Alan Whitson:** How is this shaping the way projects are defined, planned, budgeted, designed, delivered and financed? You have all these little levers to switch, which ones are you switching?

**Keith Allen:** We've switched on the financing front - traditionally we used cash but with the challenges on our acute business, the cost of everything increasing, the volumes decreasing, reimbursement is declining -- the capital isn't there in the same amount. And now with the rates of climbing so much, it's really hard to get certain projects approved because of the cost of capital.

**Robert Crotty:** For us it's primarily in planning—we're really planning smaller projects right now. Looking at the risk spectrum, a new hospital is the riskiest project in our environment and then bumping out an OR is the least risky. So, we're doing lots of small projects right now, such as freestanding EDs. This strategy is the feeder strategy where you can go to the small facility and get in and out. That's what we've been deploying over the last year that that may change here in the future. We're also waiting it out, asking ourselves, "Where is escalation going? Is it going to continue or is it going to flatten?"

**Tammy Moore:** On the development side the biggest thing that we're seeing as the norm now is building in contingency costs. You know you're going to have hidden costs; you know you're going to have escalation so we're averaging about 1 % per month of cost and then reviewing it as we go and then giving it back if we don't need it. The other thing is in the planning -- taking into consideration the lead time of new equipment at the design phase and getting approval much sooner than you would typically.

**Chuck Rice:** Similarly, one thing that we're implementing is early design. Can we get design started without funding or with limited funding? Then we can get started with design and we can get the basis of design for the equipment and get those secured. We're not going in with a full budget saying it's $10 million, instead we're saying "give us $300,000 to get some design going" and then we'll get GC pricing and say "hey this is our project - let's move forward."

**Alan Whitson:** What are the biggest pitfalls to avoid?

**Tammy Moore:** Getting too far out ahead of yourself.

**Robert Crotty:** We're doing a bunch of at-risk but now we're locked into that design and it's harder. We have to pay to redesign it again, and that that's happened here recently with some of our projects, because now we want to change how we deliver it. But now we have to go back and say "I know we spent money on this design but can we throw that away and do a little more?"

**Keith Allen:** Not spending the time on the front end planning a project can always hurt you on back end. Working with the right stakeholders is important too -- not trying to include the masses, but a targeted group.

**Chuck Rice:** I agree with Keith on getting the core team involved to get buy-in. We're not a prototype company. The doctors have a lot of say in the design and there's not a lot of corporate push down with how we standardize, so having the right group in there to get sign off is key. If you get too far down line and you didn't get the right doctors involved, then you're back to redesign, and you're slowing down the whole project.

**Alan Whitson:** What are the lessons you've learned from new technology methods that will make this process smoother and save time and money?

**Robert Crotty:** We recently deployed a program where somebody walks the site once a week with a camera and takes pictures of the work being done and compares it to the model and tells you know if you have discrepancies, such as "you had 1000 ft. of conduit that was supposed to be run in this location and you only have 500 ft done." So, there's not a lot of debate with the

contractors on what's done and what's not done. It’s helping us manage the resources and the project schedule. You have to offset the labor shortages with something, whether it's technology or machines.

**Chuck Rice:** On the facility maintenance side, the operating costs of a building are tremendous, so installing fault detection, having an energy dashboard or a monitoring system so you know what your systems are doing. And making sure that you're paying attention to the health of your equipment—if you see that something's failing you need to be budgeting dollars so you can get things replaced over the years.

**Tammy Moore:** From the operations standpoint it's really assessing the assets we have because it may have come from acquisitions -- you may have a good idea of what you acquired, or you may not. Getting that assessment and getting the data so that you can make good decisions so that you can provide the best energy oversight. You need to have the data to move from preventative maintenance to a predictive model.

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