









9th Chicago Hospital, Outpatient Facilities & Medical Office Buildings Summit
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Piloting Healthcare's Road to Recovery

Planning, Real Estate, Design, Construction, and Operation of
Hospitals | Clinics | ASCs | MOBs | Retail | Telehealth
Home Health | Non-Clinical | Research Facilities

This Education and Networking Event is Presented by
Corporate Realty, Design & Management Institute
Association of Medical Facility Professionals – Chicago Chapter
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Executive Summary:

- Healthcare Acquisitions & Partnerships: The Ups, Downs, and Impacts
- The Great Ambulatory Care Migration
- Money Saving Solutions from STARC Systems and Allegion
- Using Cleanroom Technology to Improve Critical Environments in Healthcare
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- Deploying Advanced Technology Successfully
- How Great Health Facilities Rejuvenate a Community
- The Art of Big Healthcare Projects: Managing Scope, Schedule, Cost, Execution, Expectations & Ghosts

This executive summary was written by Jeff Steele, a freelance writer based in Chicago
scribsteel@ameritech.net | https://jeffreysteele.contently.com/

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Healthcare Acquisitions & Partnerships: The Ups, Downs, and Impacts

Nick Gialessas, Managing Director, Kaufman Hall

- Recent years have witnessed a prolonged operational and monetary shock from 2020 to 2022, stabilization in 2023 and normalization in 2024 and beyond. We've seen volumes rebound, the interest rate stabilizing and a return of capital investment and strategic focus.
- Does normalization mean sustainable? Three truths are: Achieving long-term sustainability requires better, durable financial performance; healthy capital spending is imperative to maintain market essentiality; and well-funded competitors will continue to increase investor returns.
- The worst year for hospitals was 2022, but operating margins are improving, signaling opportunity on the horizon.
- Labor remains the top concern after years of rising expenses. Workforce shortages and historic inflation have resulted in increases in all major expense categories. Pauses in capital spending mean aging facilities will require catch up.
- Care delivery continues a significant secular shift into the ambulatory setting, and as competitors strip away layers of services, health systems risk being reduced to their core. Payers are becoming full-stack healthcare platforms. Non-traditional and retail players have entered the fray, among them Amazon Clinic, CVS Minute Clinic and Walgreens Village.
- How are operators responding? By exploring opportunities for growth via margin improvement and business model transformation. Operators must transform from focusing on patients to focusing on consumers, in the process expanding relevance, enhancing capabilities.
- Are capabilities exportable across state lines and geographies? Kaiser Permanente and others are exporting. Operators are amassing scale, but to what end? To compete, they must actually capture value from scale.
- Where headed? The fastest growing sites of care over the next decade will be virtual, outpatient and the home. We are moving away from a facility-centric model, with lower-cost access points, data-driven approaches shifting the nexus of care. This era of consumerism and AI results in facility becoming commodity.

- Conclusion: For 2024 and beyond, understand what your consumers will demand, design for lower and transparent costs, build to attract workforce and offer improved access, not just through brick-and-mortar. Position to compete on experience and understand role of AI and technology. Putting patient experience first is critical.

The Great Ambulatory Care Migration

Tyler Bauer, MA, MBA, LCPC Senior Vice President, System Ambulatory Operations, UChicago Medicine

Matthew Bluette, AIA, ACHA, AICP, NCARB, LEED AP, Principal, Director of Healthcare, CUBE3

***Moderator:** Lindsley Withey, FACHE, Principal, Strategy and Business Advisory, ECG Management Consultants*

What are you seeing as the most realistic way to push out to the ambulatory services?

Bauer: We're seeing pressure from our payers to push more services out to ambulatory. Ease of access is number one on our plate of worries and also in the minds of consumers. We need to be able to offer the same kind of experience across the board no matter what way patients access us.

What can be done in the procedure rooms off campus?

Bauer: We're seeing migration, but there are limitations, such as the number of patients you can have recovering from anesthesia in a medical building.

What processes govern strategically locating these facilities?

Bauer: We're placing them nearer larger population centers, and we're moving into growing markets like Crown Point, Ind. We are also beginning to work on the ability to recruit providers to the locations.

Bluette: What works are something like a medical mall. Make it a destination with urgent care and strategic clinical providers there.

What can designers do with these sites to creation uniqueness or "stickiness"

Bauer: Amenities are table stakes, enabling you to do your work and get stuff done while waiting for a loved one. Take a Zoom call, have a meeting, plug in devices. And it's really important to include flexible space that allows sharing of teams across sites.

Bluette: People are now consumers of heath care they will shop around. People want communication with the person picking them up. They want that communication more than anything. Nursing is at such a premium right

now, with nurses quitting. Rethinking design of staff lounges is a big thing, so nurses don't have to eat in their cars.

What are your thoughts about accommodating variability in your facilities?

Bauer: Supplies and equipment might not be needed for primary care, but needed for specialists. Include mobile storage that can be moved in and out easily, equipment that can be pushed out of the way.

Bluette: If you're unionized on campus, you don't want union nurses out at ASC. There you can't have acres of storage like at a hospital.

What partners are important to patient experience in ambulatory facilities?

Bauer: I think of food a lot, and I also think about CRM software. It's on the same parallel because getting your message out about your services is key. Wayfinding instructions are also very important. Music and medicine: We have musicians playing, which is really nice for patients.

Bluette: The person bringing the patient is often more of a nervous wreck, so we want to make those people more comfortable in waiting areas.

How can technology help?

Bauer: Technology has been great in shrinking the need for space, and by giving doctors preprogrammed tablets so they don't have to go to terminals.

Money Saving Solutions: STARC Systems, Allegion Healthcare

Chase Hoenscheid, STARC Systems

- Setting up Class IV+ temporary walls should be dustless, affixed to ground or ceiling, secure from movement with sealed gaps.
- New! Class V: Anterooms a must because dustiest projects around most sensitive patients demand extra protection.
- Raising ICRA barrier standards designed to improve patient satisfaction, provide first safety compliance, block noise and hide mess.
- Among benefits: Fast installation, safe, durable, reusable, cost savings.

Colin Watson, Allegion

- Interior sliding doors can satisfy safety and security needs, and still look great.
- These doors provide increased security by better controlling access, in addition to maximizing room's useable space.
- Sliding door advancements include STC 34 performance, automatic operators, smoke ratings, access control integration, fire ratings of 45 minutes, Barrier free bed lift assemblies, telescoping doors, improved service life, standardization and group purchasing arrangements.

Using Cleanroom Technology to Improve Critical Environments in Healthcare

Cliff Yahnke, PhD, Chief Science Officer, SLD Technologies

- We need to reduce healthcare harm. U.S. statistics on health-acquired infections (HAIs): One in 20 patients acquires an infection while in a U.S. hospital. There are 99,000 deaths per year and this is consuming more healthcare dollars yearly. The typical cost is $23,000 per infection.
- As we live longer, patients will need more hip and knee replacements because of American diets, so surgical site infections will only increase.
- Prior room occupancy risk: You're three times more likely to catch an infection if the person in the room before you had an infection.
- Operating rooms (ORs) is where hospitals make their money. ORs have layers of ceilings and typically air is pushed out in four directions. But with fully-integrated, factory assembled modular integration of components over bed, uniform air delivery pushes infection out of the OR. Air delivery, LED lighting, fire suppression, audio/video and structural mounts fully integrated as system is factory assembled
- Visible light, shown safe for humans and materials, can provide whole room disinfection. It causes organisms to die. Installing the lights resulted in 88% reduction in contamination. Can be integrated into the overhead lighting, reduces post-operative infections, kills organisms missed during manual training. Disinfects air and surfaces automatically, so no one needs to be trained, or constantly reminded.
- Unlike UV, which upsets cellular DNA, 405mm visible light disinfection (VLD) excited the porphyrins in the cell, yielding reactive oxidative species that deactivate the cell.
- Pre-fabricated modular built saves healthcare money compared with stick-built construction
- Summary: Cleanroom technology can be used to improve the constructability and performance of operating room environments:
    - Single layer diffusers provide superior airflow as compared to multi-diffuser arrays;
    - Visible light disinfection provides safe, continuous and automatic whole room disinfection that can be easily integrated into the ceiling structure.

Adaptive Reuse: When It Makes Sense and When It Doesn't

David Dastur, AIA, NCARB, Senior Principal,
Jensen & Halstead

Alex Katz, Managing Director,
Farpoint Development

Brad Mayer, Divisional Director, Design & Construction Center of Excellence,
AdventHealth

Andrew Shaw, PE, Senior Associate, Senior Electrical Engineer,
IMEG

Ryan Yoho, Area Manager,
The Boldt Company

***Moderator:** Glenn Fischer, Executive Vice President,*
Corporate Realty, Design & Management Institute (aka SquareFootage)

What are the biggest advantages and pitfalls of adaptive reuse?

Mayer: It's location, location and location. We start to decide on a location based on age and demographics. We start looking a prime area and if there's no land available, we look at buildings that can be reused.

Katz: Parking lots and shell are already there. But the pitfall is the misnomer that any building is easily retrofitted into medical offices. A lot goes into medical offices that is not part of the average building.

Dastur: Big advantage is the economics of turning retail into a medical building. The site is already zoned to take on a medical facility. Downsides: We will look at various sites with clients, who suddenly tell us they sized a lease for the place, which turns out 25 percent too small or has roof issues.

Yoho: The pitfalls may be structural integrity. You can do smaller T.I.s with a team, bundle them together, do much more than an individual project.

Mayer: We moved into a Toys R Us facility, but those roofs weren't robust enough to hold up anything but the sprinkler system. We prefabricated the mechanical rooms. You have to do things repetitively.

Shaw: When the design and construction teams are brought in as part of the site selection process, that's a best practice. Having the team involved in the early stages can expose the true cost of these projects.

Yoho: We've seen that when all the partners are involved – the developer, the GC on the core, another GC on the T.I. – you want them all on the same page at the start. That helps.

Katz: You need to trust the people who surround yourself with, getting back with all the parties, getting them in a conference room. It goes back to developing the right team early on, understanding the goal and doing it

Dastur: You want to keep the owner part of the conversation. Have the team come back to the owner and all figure out the best way to do this.

Katz: Get the health system the property they want and get it open. There's a misconception that the developer or tenant has to win. The developer has to make some money, the architect does as well, but we're in this to provide healthcare to geographic areas that don't have healthcare.

Discuss technology and its impact.

Shaw: Get the building scanned early. The columns aren't moving, and you need to be dead on with modular rooms built remotely and the underground plumbing and more.

Yoho: We can have six projects going on concurrently, and you try to communicate with all teams at one time. Using OpenSpace [reality capture software] you can be talking to teams in all the areas. It's a benefit to communication.

When you look back at projects, what would you not want to do again?

Yoho: Sometimes we think we can keep things and it's a waste of time and money. Sometimes, you just need to do it new from the start.

Shaw: Be aware that spaces above the ceilings in large retail buildings can suck when converting to medical purposes.

Katz: In terms of smaller-size buildings, we've had a lot of success with banquet halls, because they have a lot of clear span space. Another example is former Borders and Barnes & Nobles. They lay out nicely.

How do you incorporate sustainability in adaptive reuse projects?

Mayer: In the Rockies, we're doing geothermal and we are looking at solar.

Katz: We rely on the tenant to dictate what their needs are, and what they're comfortable with doing.

Destination: Certificate of Need

Juan Morado, Jr., Partner, Co-chair Diversity, Equity and Inclusion Committee, Benesch Law

- In Illinois, a Certificate of Need (CON) must be obtained prior to establishing a new hospital, long-term care facility, birthing center or ambulatory surgical center. A CON must be applied for and approved by the Illinois Health Facilities Services review board.
- While the analysis takes place, location for the proposed new facility should be finalized. CON permits are site specific and CON applicants must demonstrate control over the site, through either a lease/deed or letter of intent.
- The CON process itself can take between four and six months from the moment the application is drafted to initial consideration.
- The construction and licensure process for new facilities. Architect/engineer partners should b e ready to submit a projection submission form to the Department of Public Health (DPH) within a couple weeks of approval.
- The plan review process with DPH can take 60 to 90 days. Once approved by Division of Life Safety, construction can begin. Construction times vary and can be estimated by the contractor. Once construction is complete, a life safety inspection and licensure inspection will take place in six to eight weeks.

Money Saving Solutions: Camfil USA, Assay Abloy

David Harris, Camfil

- MERV vs. MERV-A. MERV stands for Minimum Efficiency Reporting Value. All filters are not created equal. MERV-A will tell you how the filter will perform day one and the day it's removed. The only way you can be assured it's the same throughout is if it is MERV-A. Many 13s on day one turned out to be 11s later on as particulate coats the fiber.
- Camfil tests all its filters and provides both MERV and MERV-A ratings.
- Total cost of ownership, or TCO: As air filters load up, it creates resistance to air flow, and that adds substantially to a facility's energy cost. Look at filters from a performance standpoint, and how they will work over the life of the filter. Don't judge filters on initial purchase price.

Lindsey Lawrence, Assa Abloy,

- The door and hardware package make up 1% to 3% of total project cost if designed and specified consistent with the owner's needs and usage.
- Projects added by change order or due to lack of performance increase costs.
- Total cost of ownership needs to be factored when value engineering.
- Compared to traditional online EAC hardware solutions, savings can be reaped through POE access control, with wireless access control design,
- Achieve cost savings through standardization and design guides. Standardization creates efficient design, improved quality control, performance and application consistency and ability to leverage bulk and group purchasing options.

Designing for Security in an Era of Increased Violence

Lauris Freidenfelds, VP, Security Risk Consulting,
Telgian Engineering & Consulting

Barney McGrane, AVP, Public Safety,
NorthShore Edward-Elmhurst Health | President - Chicago IAHSS Chapter

Erik Nelson, EIT, PCDD, Studio Lead, Technology,
Stantec Consulting Service

What needs to change about design, and what's causing that in today's healthcare facilities, compared to those of pre-pandemic.

Freidenfelds: We want to be an open and inviting environment, but you don't have any control over who's coming into the facility. We want to be open and inviting only for those who belong and should be coming into the hospital.

Nelson: The newer technologies help, but good processes need be in place.

McGrane: It starts with the floor plans, don't give yourself blind spots where folks can hide from the public safety team. It's a matter of balancing patient experience with the staff safety piece. When you have nine different floor plans in nine different hospitals with different constituencies, getting the patient care team buy-in ahead of time is always important.

Freidenfelds: Nurses are victims of micro-aggressions. How do you address every possible type of event, with people who have no ID?

Nelson: You need a solid security standard that pairs well with your operational plan. That can feed into a solid standard ahead of a project. That way, when you start a project, you can hand that standard to the development team. If you wait until you're building the structure to develop the standard, you are too late.

McGrane: I believe in carpet bombing with cameras. We shoot for the ceiling, and then have the owner scale it back.

Freidenfelds: It's not called the metal detector anymore, it is weapons detection featuring AI, and multiple technologies.

McGrane: Sound intelligence allows you to hear what's going on the floor, and works in conjunction with cameras, sending notifications to your dispatch center.

Freidenfelds: Cameras can actually identify colors and cars, and can alert teams if something is happening right now, but some biometrics are limited. People want to feel safe, they don't necessarily want more cameras, but feeling safe makes them more productive.

Is it better to let public know about these systems, or have the systems hidden?

Freidenfelds: There's no singular answer. At Mt. Sinai, a lot of overt stuff helps. The weapons detection can be more covert and friendlier in others.

Nelson: it's about messaging. I would not hide those systems. I'd make sure you're messaging it to keep staff and patients safe.

Deploying Advanced Technology Successfully

Paul Kondrat, PE, LEED AP, Principal, Engineering Co-Director
Cannon Design

Jack Roberts, Systems Architect, Digital Buildings,
Schneider Electric

***Moderator:** Braheem Santos, Healthcare Strategic Account Executive,*
Schneider Electric

A lot of stakeholders are asking for technologies, but they are in the hands of people having siloed conversations. Response?

Kondrat: Place some guardrails around what you're trying to do. When you don't have the right governance in the room upfront, you don't have the budgets and it may contribute to high unsuccessful rates.

Roberts: Data can be shared through simple conversations you have upfront. But if you don't have them upfront, you'll wind up buying redundant hardware.

Do clients and customers understand the full extent of their asks?

Roberts: We almost always fully understand what they want, but don't always understand why they want it. I need to understand the reason behind the request. We need to understand their motivation. We have a great example at the cancer center. It's using traditional building management controllers to also do the lighting control. They can handle more functionality now. By combining these into one piece of hardware, you're saving a lot of time and effort, and eliminating redundancies.

Kondrat: We'll see cameras pushing forward. Snow melt systems that depend on sensors invariably failed, so we asked the people monitoring the cameras to determine when visitors were beginning to slip on snow. It seems low-tech, but it has avoided redundancies and it has used tech already there.

How early should technology partners be involved?

Kondrat: Everyone wants to answer that, "As early as possible." But technology goes out of date. We need to make it future ready. There's a sweet spot you need to hit that's within that continuum. You need the conversations and need to understand the "why" at the beginning.

Roberts: I want to help guide the conversation at the “what” phase, because we understand our technology better than anyone else does.

What is the most important technology right now?

Santos: Technology labs are so important in the evolution of technology. You put in your RFP, and the product will be tested in the laboratory environment. You’ve got to have that validation lab to test your products.

How Great Health Facilities Rejuvenate a Community

Linh Dang, Chief Experience Officer,
Cook County Health

Dan De Young, Facility Master Planner,
Jesse Brown VA Medical Center

Allyson Hansen, CEO and Executive Director,
Illinois Medical District Commission

Susan Stearn, AIA, LEED AP, Senior Construction Project Manager,
Rush University Medical Center

***Moderator:** Gary W. Collins, AIA, NCARB, Senior Director/Healthcare,*
Virtual Energy Solutions

Institutions are integrating themselves into the neighborhood. Discuss this.

Hansen: Understanding the makeup of the Illinois Medical District (IMD) would be a good start. The IMD started in 1941. City fathers felt they needed a safe place to put a center core of industry called healthcare, surrounded by housing, further surrounded by a quiet zone called green space. In 2021, a whole new door opened for us and we began to focus on parks and the environment around us, as well as the question of who does similar jobs and neighboring industries. The initiative has brought together medical facilities, and initiated talks about arts for instance.

DeYoung: Jesse Brown [VA Medical Center] opened in 1956. Our clientele tends to be drawn from 62,000 veterans, and those veterans we haven't served yet, whom we want to draw into our district. We're in partnership with other V.A. Medical Centers, such as Hines to the west.

Stearn: Rush System for Health is made up of three main hospitals – Rush University Medical Center, Rush Oak Park Hospital and Rush Copley Medical Center – and hundreds of ambulatory locations around Chicago. Baked into our mission is improving the health of the individuals and diverse communities we serve through the integration of outstanding patient care, education, research and community partnerships.

Our anchor mission strategy: Trying to use our economic power to bring

about systemic change. We're looking to improve the economics in our neighboring ZIP codes. The goal for hiring local was 18 percent, and we hit 17.4 percent.

The 7 Atrium Challenge focused on a building constructed in the 1960s with inward looking, atrium-facing windows. My challenge was with very little budget, how could we make patient experience more pleasant?

Art was the answer, with the formation of the IMD Arts council, we met with CHICAT, the Chicago Center for Arts & Technology, which has a free youth arts program. And Steelcase got involved. The students were given the opportunity to visit the Merchandise Mart and learn about biophilia.

And we game up with a method of getting flower photos on windows with a frosted film. Light would continue to come through the windows but the patients would retain privacy, and all done with a budget under $15,000. The patients and staff all appreciate this, with staff having favorite flowers.

Dang: We use art to combat high rates of suicide among nurses and doctors. We also ask, how can we protect our patients and staff? The answer was to put up bullet-proof barriers outside the emergency rooms. The barriers are to help protect them, but nobody knows they are bullet-proof barriers.

Is there a development planned across from United Center [Home of Chicago Blackhawks and Chicago Bulls]?

Hansen: The United Center has an exciting plan to expand its campus and create an entertainment zone, and they want to partner with us. We would love to do a highway cap [over the Eisenhower Expressway], and connect the Near West Side to the Medical Campus. We are really surrounded by some amazing places to go out and enjoy Chicago. The question is how do we make it easy and accessible, without disrupting healthcare?

Dang: I work with the community, staff members, and patients and we're doing a lot of murals. We invite them to the paint party to give them a sense of ownership and build connection to the community.

Stearn: We want to set up the structure and see where it goes, putting one step ahead of the other, and seeing what becomes of it. Some students who were part of our program in 2023 got to see their work installed, and this led to great excitement on their part.

The Art of Big Healthcare Projects: Managing Scope, Schedule, Cost, Execution, Expectations & Ghosts

Eric Hoffman, Vice President,
Project Management Advisors

Adam Keyzers, Program Director, Business Leader Healthcare,
Jacobs

Patrick Knightly, Capital Program Management, Executive Project Manager,
UChicago Medicine

Patty Nedved, RN, MSN, Associate Vice President, Capital Projects,
Rush University Medical Center

***Moderator**: Steve Nargang, President, AMFP Chicago Chapter and*
Regional Vice President, Hammes Healthcare

Define, if you will, what is a big healthcare project?

Keyzers: Big is defined as how it may effect the environment, community and more.

Nedved: The new ambulatory building on the Rush campus was our most recent project. Cost, size, levels of complexity and commensurate egos that came with it made it large and complex.

Knightly: We'd define it was $500 million to $1 billion. It's going to be there for 50 years, and you've got one chance to do it right.

Hoffman: Things that are difficult to manage in a two- or three-year project become almost impossible on a five- or seven-year project.

How do you assemble a team?

Keyzers: It starts early on with expectations. We call it the three "Ts": Team, trust and transparency. We set the expectations at the beginning, and empower all team members to speak up and speak their minds if there is ever a problem.

Hoffman: Establish the culture early on, and find ways to support it and nurture it over the course of the project.

Knightly: Transparent trust between the construction managers, owner and architects is essential. Creating that culture is one of the keys.

Keyzers: Governance and change management are the two most important qualities to the leadership team.

Nedved: Of utmost importance to us is the role of change management in your project and the documentation of the changes, and ensuring you can track them and make them visible to all. We are 18 months post opening, and when we're asked why we did things the way we did, we can go back into the documentation and show people who made the decision and why.

Hoffman: Have a robust onboarding process as some of the new key individuals come onboard. And have a dedicated internal communications person to ensure the decisions are communicated.

Nedved: Our team used tabletop exercises to determine problems before construction and avoid change orders on the later stages. We involved the community early, facing a set of townhomes and on the east end a school. We had to meet with the townhomes' condominium association, school administrators and both alders of the community. Community hiring fairs were used to hire people for the project from the community. But those who didn't get jobs in the project wound up with jobs at Rush.

What key lessons have been learned?

Knightly: Be adaptable. I've had the good fortune to work for very different kinds of clients, and very different kinds of people.

Keyzers: If you can mock it up beforehand, do it. We did all kinds of mockups, built an exam room mockup. It's a lot easier to change things in a mockup, and that will become more and more important going forward. We need to test things before we put them into the building. And with technology changing so rapidly, that will only become more important.