



5th Southern California
 Hospital, Outpatient Facilities & Medical Office Buildings Summit
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RECAP & TAKEAWAYS

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 In-person Education and Networking Event is Presented by
 Corporate Realty, Design & Management Institute
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Executive Summary:

- Innovation in Healthcare Facilities: Mirroring the Auto Industry
- Critical Path: IT's Vital Role in Today's Master Planning Process
- Spotlight Sessions – Money Saving Solutions
- Renovations and Adaptive Reuse Projects for Healthcare | Life Science
- Designing for Security in an Era of Increased Violence
- What's in the Cards for Healthcare Real Estate: 2024 and Beyond
- Spotlight Session – Money Saving Solution
- Leading Edge: Delivering the Nation's First All-Electrical Hospital
- Solving the Parking Puzzle
- Navigating the Annual Budget Process: CapEx, OpEx, and Other Priorities

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This executive summary was prepared by Jack Flemming, a reporter for the Los Angeles Times.
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Innovation in Healthcare Facilities: Mirroring the Auto Industry

Kurt Neubek – Healthcare Director, Principal, PAGE

John Smith – Managing Director Los Angeles, Principal, PAGE

Anshul Puri – Senior Associate, Senior Project Manager, Los Angeles, PAGE

Key takeaways:

- **Healthcare design is on the verge of a big change.** COVID, climate change, AI. Think of it like a concept car.
- **Concept car:** they capture possible vision of the future. Where things are headed. Not all ideas make the production model.
- **What is innovation?** Dictionary says novel. But in practice, goal is to do three things: satisfy a need, improve a product or service, and replicate at economical cost.

Poll at beginning:

Future of healthcare facilities will be shaped by what?

Answers: AI and Tech.

The Jetsons and the Future

Smith:

- **Predictions for medicine:** big data, personalized healthcare, wearables. AI-assisted medicine. Robotics. Genetic engineering.
- **What will healthcare look like by 2050?** Two utopian views: higher tech and higher touch.

Current Reality and Recognized Trends

Neubek:

- **COVID 19 taught us:** workforce challenges like burnout and financial challenges like increased costs.
- **Forecast:** shift to outpatient procedures, larger outpatient centers, acuity of remaining inpatients increases.
- **Healthcare facilities should incorporate best elements of medical and retail.** Convenient location, street presence, etc. Like a grocery store. Appealing, intuitive, simple.

Puri:

- **Behind all innovation, there's layer of HCAI partnership.** As we think about innovation, early integration is crucial. Preliminary reviews — see if there are any show-stopping ideas. Better to do U-turn in beginning rather than later.
- **Different types of plan reviews:** review guidance, integrated review, standard incremental reviews and FREER review.

Innovations and Growing Trends

Smith:

- **Rethinking the experience:** Digital visits, etc. Easier parking. Alternatives to waiting areas. Self-service functions. Chat with physicians in app. Text notifications. Care pods.
- **Tech is coming more to the forefront.** Rooms that shift to fit your mood. Multi-purpose buildings, beyond traditional waiting rooms. Flexible spaces embedded with technology: shade control, speakers, the physical space adapts to you.

Rethinking Healthcare Facilities

Neubek:

- **Can campuses be a place for people to gather?** Host movies, incorporate nature. Trails, parks. Connect with urban areas through connected green space. Coffee. Farmer's market. Outdoor art. Instagram-able moments. Office space, entertainment. Think beyond four walls of hospital.
- **Example of innovation:** Cohen Health, Greensboro, NC. They've incorporated the ideas listed above. Food, coffee, lawn space, bike trail. They want people to stop and hang out. It has clinics and emergency care, but also investment in fitness, wellness and aquatics. Hit 3 year break-even in 9 months: a staggering success.

Final poll:

Future of healthcare facilities will be shaped by what?

Answers: AI, community, experience.

Key takeaway: AI and tech are big disruptors, but there's much more to the story than that.

Critical Path: IT's Vital Role in Today's Master Planning Process

Karen Burns – HIT Senior Advisor, West Region, IMEG

Mark Castillo – ITS Consultant, UC Irvine Health Information Services, UCI Health

Mark Castillo

- **Two spaces:** green field (new construction) and brown field (existing campus/facility). For green field: Early integration of IT saves time and money. That's easy, we're already doing that. For brown field: Extensive opportunity for IT collaboration, but it's harder because systems may not be compatible with new networks.
- **Years ago, we were all mechanical. Now we're all IT.** In future we'll be all Wi-fi-based communication.
- **Your virtual desktop infrastructure (VDI) is your phone.** Instead of bulky computers. We have to change mind of engineers to say we're not going that route anymore by bringing in IT early.
- **Culture change:** Hard to tell people that have been there 30 years to change. Culture will evolve organically when you bring in new people.
- **COVID effects:** Pandemic helped increase usage of tele-health. People want hospital experience via mobile phone.
- **Have a plan:** When planning a smart building, identify a clear owner to integrate IT design and educate and engineering teams on new reality.
- **Example:** UCI in Irvine has \$2.7 million in cameras alone in new facility because it's a county hospital. For new campus, we scaled back to \$500,000 in cameras. Think about specific needs of each hospital. That leads to savings that you can spend elsewhere.
- **AI is norm now for technology.** Kaiser had integrated cameras for tele-health, talking to doctors within system. Now that happens everywhere.

Karen Burns:

- **Challenges with traditional design process:** IT department is limited, brought in too late. Budget not realistic, misses critical elements.
- **Example of failure:** In 2000 I opened hospital that didn't have cell service. Different parties assumed others would handle and we didn't realize until it was too late. That's what we're trying to avoid.
- **IT is not just a utility, it's necessary.** You need to bring it in sooner to maximize your investment. If you don't, you have beautiful space, but tech doesn't match.
- **Oversights with tech design:** no IT tech vision. Lack of executive level involvement from IT in planning. IT not included in initial budgeting process. If IT isn't working, hospital isn't working.
- **Takeaway:** include us early.
- **Why aren't we included?** People don't know how much resides on IT. Or they assume it's easy and integrated. To achieve true integration, need to plan ahead of time.
- **Every hospital is unique.** Some have cameras being put in for AI. Can identify whether patient is agitated or about to get out of bed with fall risk.
- **Takeaway** Include dedicated IT group for new facilities planning. Inclusion with architecture and engineering teams. It should be a partnership. We can make suggestions: "Do you want a Genius bar? Do you want a virtual wall? How do you want to utilize this space?"

- **AI is coming.** Everything else is thinking about the cool elements of tech and how it will work, while we're thinking about how we're going to support it. AI will take a heavier toll on systems. How does this affect the wireless network?

Money Saving Solutions

Mark Marquez – STARC

Steven Rangel - Camfil

Tyson Gannon – Allegion

Mark Marquez: Hard barrier systems

Benefits of hard barrier systems

- Speed of installation
- Built for hundreds of uses
- Renovation peace of mind, protects patient from dust and noise
- 100-foot hard barrier space can be set up or knocked down in an hour.
- Every use diverts one ton of waste.
- They blend in with aesthetics, more natural in environment. Doesn't feel like construction.

Steve Rangel: Clean air solutions

- MERV rating is important.
- Fine fiber vs electrostatically charged coarse fiber: charged fiber draws particles in. But MERV rating falls eventually.
- We build product not for price point, but for solution.
- Total cost of ownership: 2% disposal, 8% labor, 20% filter cost, 70% energy cost.

Tyson Gannon: Sliding door systems

- We built a door visualizer, so you can walk through healthcare space and see where a sliding door could work.
- Placement: They can go in procedure rooms, exam rooms, X-ray rooms, administrative areas, pharmacies/labs, restrooms.
- Advancements: Touch-free operation. Smoke ratings. Access control integration. 45-minute fire rated assemblies. Bed lift integration. Telescoping doors.
- Reason for sliders: space saving. For every 11 exam rooms with slider, they got 1 extra room.

Renovations and Adaptive Reuse Projects for Healthcare | Life Science

Kevin E. Chang – Director of Construction, City of Hope

Moe Goudarzi – Healthcare Business Leader, ARUP

Mildred Soto – Director, Facilities Planning, Design and Construction, Cedars-Sinai

What are biggest advantages and pitfalls of adaptive reuse projects?

Goudarzi: Important to look at speed to market, infrastructure available, and whether space allows for what you're trying to do. From carbon standpoint, if you're reusing a building, you're reducing carbon footprint. For any project, look at possible buildings to reuse.

Chang: Speed to market is one of biggest advantages of adaptive reuse. So we have ability to identify sites, but ask one question: where do you want to be? Location, location, location. It's about getting access to care for patients as quickly as possible.

How do you avoid sticking a square peg in round hole?

Soto: I've been working on renovating pharmacy to USB. It's challenging because you deal with existing infrastructure, and pharmacies have specific needs. Fitting that into specific space is challenging. It creates a lot of infrastructure issues.

Goudarzi: Important to look at it as a group: what do we need, what do we have on hand? Look at flexibility for future. Healthcare changes quickly. As soon as a project is done, might remodel soon after. Spending more up front for flexibility can help. The thought process of not today, but for future.

Chang: Good planning and design. Having a space that can grow and contract as needed. Also think about capacity. Even though things shift to outpatient, we still see a need for inpatient beds.

When do you make decision to kill a project?

Goudarzi: Do your due diligence. Designing, planning, etc. Some folks see it as an investment up front, but yield is important. Take time to think about the end needs of users.

What's role of in-house and external planning in delivering successful project? How do you partner with everyone?

Chang: Always pair right team with right project. Every consultant I bring on, I make sure client expectations and make sure they've worked together before. Communicating early enough on scope and intent of project. Everything is about speed to market. One day more building is one day less treating patient. It's life and death. So, get right people at the table early on.

Soto: Crucial to understand vision of what we're trying to achieve. That starts early on in business planning.

Goudarzi: It's our job to listen. We all become one team, no hierarchy. And then bringing other partners in to get involved at right time.

Advice?

Soto: Building adaptive reuse, our campus focuses on clinical care. We look at what programs can move off campus to maximize footprint of patient care. Change is coming.

Chang: Be ready. When owner has project to deliver, it's now or yesterday. Move quickly.

Designing for Security in Era of Increased Violence

Darren Morgan – Director Emergency Management, Parking and Security Services, Huntington Health

Jonathan Westall – Vice President, Ancillary Services, MLK Jr. Community Healthcare

Ways to design security?

Morgan: Think about staff perception of safety and how it has evolved to be high priority. Putting mother/baby unit in first floor of tower? That's #1 complaint from staff. We don't feel safe because patients don't feel safe. From planning perspective, when building hospital from ground, put them on top of building.

Westall: Everything has to be about design. Incorporate security at beginning. Security isn't a revenue driver, so it won't get funded later on unless something bad happens.

What's on list of things they should integrate for cost-effective security?

Westall: Incorporate software. Putting in extra cameras isn't effective. Has to be something on the back end. When someone forces door open, that's where camera needs to be. Software can identify who forced door open.

Morgan: Have IT backbone in design. Set up right network and cabling because all those devices depend on having right cabling to right locations. Don't make security afterthought. Should be primary group that plans building.

What shouldn't be done from security standpoint?

Morgan: Pre-covid, 46 doors to facility, everybody had access. During Covid, only 6-8 doors. Inconvenient, but we didn't need that many access points. Channel traffic to enhance security.

Westall: Every door doesn't need card reader. Budget gets out of control. Yes, you want door security, but do we need to secure every staff bathroom? No. We can go overkill on secure facility. Prioritize and understand the real access points. Do a vulnerability assessment, get an expert opinion.

How is tech driving business?

Morgan: Security is tech driven. Sensors in restroom to determine vaping. Cameras that read temperature but also other factors via AI. Using tech in a way that benefits occupants of space, not just to have it.

Westall: Look at things you can do more. \$25 minimum wage, can't hire more security. Don't have money for sitters. Put camera to watch people instead. Put things in place that work and walk away.

What's in the Cards for Healthcare Real Estate: 2024 and Beyond

Mike Conn – Principal and Chief Executive Officer, Meridian

Bryan Lewitt – Managing Director, Healthcare, JLL

What's the state of the real estate market in healthcare?

Conn: Homebuying is hard, interest rates are high. Same in healthcare. Sellers and buyers aren't aligned. Sellers aren't selling. Whole market has to adjust to cost of money being what it is. Everyone's cost of capital is more expensive. Add that to construction cost, it's hard to get deals done. Deals get done, but it's harder and more expensive.

Lewitt: Last few years, vacancies haven't changed, around 9-10%. It's a healthy market, except for tenants. 90% of tenants renew because it's too hard to relocate. Even for adaptive reuse, too hard to build. Medical groups are staying.

What are creative solutions around these problems?

Lewitt: We can offer free rent, more tenant improvements to keep rental rates high, etc.

Conn: COVID exposed how much cash on hand healthcare systems have: not much. They need help on smaller projects, so they bring in small landlord or third-party developer. So how can we deliver healthcare at more affordable cost? Time is money, to faster to create revenue center is a big deal because they need revenue coming through door.

Final advice?

Lewitt: Moving forward, more behavioral, more outpatient off campus, more partnerships between healthcare systems and operators to deliver care.

Money Saving Solutions

Matt Garner – Assa Abloy

Traditional vs. Intelligent Openings

It's a holistic approach to opening.

Traditional EAC: adds up to more cost

Better solutions:

WIFI solution

- reduces time to open
- connects to existing infrastructure
- reduces installation cost

Aperio ® solution

- Aperio – Latin word that means to uncover, make clear, or reveal
- significantly reduces time to open
- also significantly reduces installation cost
- remote lockdown capability
- can still be used during power outage
- connects to hub that supports up to 64 devices

Leading Edge: Delivering the Nation's First All-Electrical Hospital

Louise Belair – Senior Vice President, WSP/tk1sc

Joe Brothman – Director of Facilities, UCI Medical Center

Gina Chang – Principal, CO Architects

Sean Hu – Vice President, WSP/tk1sc

Chris Tokas – Deputy Director, HCAI

Key takeaway: An all-electric hospital is possible, and it's being done.

The plan: All-electric hospital. Abides by carbon-emission and sustainability requirements. UC has pledged to become carbon neutral by 2025 — the first university to do so.

The location: Located on north campus of UCI on marshland with native species of turtles and birds. Donated runoff from campus to marsh for it to flourish. Global impact and local impact to ecosystem.

The goal: electrification and decarbonization. It's designed to utilize electricity as energy source, but also implements carbon neutral energy sources to provide that energy.

- Healthcare is high-energy usage, so opportunity for large impact.
- Traditionally, healthcare energy is half electric, half fossil fuel. So, this eliminates fossil fuel.

How to do it?

- Heat recovery chillers
- Air source heat pumps
- Electric resistance heat
- Traditional system has central plant that distributes steam. All-electric system takes equipment from plant and brings it to local sites.

The impact:

- Electrical service increased 15-20%
- When more are implemented, it will impact electric grid. Will require dedicated service, which won't be ready for 6-8 years.

Lessons learned:

- Limited equipment available for heat recovery chillers and air source heat pumps. This will hopefully change and make other projects easier.
- Acoustics are loud.
- More outdoor space is required to store air cooled equipment

Maintenance cost:

Natural gas steam system: \$1.751 million annual maintenance cost

Electric system: \$337,920 annual maintenance cost.

Current status:

- Construction in progress

- Ambulatory care coming next, then parking structures.
- Hospital goes live late next year.

Regulatory implications: none.

Tokas: This is a dream come true. There's nothing to be skeptical about. As long as it's planned properly, it's like any other project. All-electric hospital is just the first step. There's initial investment, but that will pay off.

Brothman: The tech we're using isn't new. At this scale, yes, but we're using traditional technology in a new sense.

Solving the Parking Puzzle

Josh Kavanagh – Executive Director, Triton Auxiliary Programs and Services, UC San Diego
Gordon Knowles – Associate, Principal, Watry Design, Inc.

Kavanagh:

- **Takeaway:** Without parking, your health service won't function in a satisfactory fashion. And if not implemented early, it'll be harder to integrate later on.
- **Example:** Hillcrest campus has super-garage with 1,850 stalls. It brings clarity, allows you to define patient experience upon arrival and exit.
- **Safety is paramount in customer journey and staff satisfaction.** In creating central garage, brought both staff and patient parking together in one hub. That brings flexibility.
- **Tech needs to do double or triple duty.** Example: frictionless parking system. If you have existing permit, just drive in and park. If you're a first-time patient, it starts meter when you drive in and stops when you leave.
- **Cool new thing at Davis Health:** when you arrange appointment, it tells you not only what garage to go to, but when you land, you interact with RDIF beacons. They get you to the door of the facility, but also to the exact clinic inside facility. One seamless journey.
- **Seattle Children's Hospital case study.** Campus redevelopment, not enough space for parking. I owned parking lot next to it. They asked to lease parking. I asked for employee badges to track when they go in and out. Now they have user data, so they know when employees are driving and when they're getting to work. Developed campus with way less parking than they originally thought and for way less money.
- **Future of parking is EV.** Today, I build garages that are designed for 40% EV capacity even though current number may be only 20-25%. Future proofing.

Knowles:

- **Patient journey starts at reception.** But we'd take that a step further: it actually starts with parking your car at the hospital.
- **Example:** Through Hillcrest super-garage, we've created connectivity. Allows us to separate flows, using levels to separate patient journey from parking structure to healthcare facilities away from traffic. It's simple, clean and safe.
- **Innovations:** Camera-based systems have potential to lead you straight to stalls. We're adding cameras throughout: double duty, both security and payment systems. Also gathers data.
- **Example:** Fred Hodge has robotic parking solution. Fits more because you don't have to drive to it. It's like a vending machine, takes car at the front door and brings it back to you.
- **Future of parking is flexibility.** Plan for parking structures to possibly not be parking structures: could be clinical areas during Covid, etc.

Navigating the Annual Budget Process: CapEx, OpEx, and other Priorities

Dr. Nat'e Guyton – Chief Operating Officer, CommonSpirit Health, California Hospital Medical Center

Judd Orlando – Executive Director of Facility and Planning, City of Hope

Sam Staley – Executive Director, Facilities, Planning, Construction and Real Estate, Huntington Health

What are the biggest missteps people make during preparation of their annual budgets?

- Orlando:** Budgeting isn't something to be done at one time. It can't wait for the day before, like taxes.
- Staley:** All about collaboration. Lot of people can request capital improvement projects. But if we don't account for everything, we set ourselves up for failure.
- Guyton:** 5 years is the new 20 years. Get what you need. Expect the leadership team to be there, even in budget cycle. My current CEO might not be the one I end up with. Understand that the people you're working with will change during budget cycle, so get everything you need at beginning.

When doing budget, how do you address unknowns?

- Staley:** For projects, layers of contingency. When reviewing budget request, leaders want to know how much contingency. So, we layer the contingency so we can incrementally give dollars back but also protect contingency.
- Guyton:** Communication is key. There will be unknowns, but sometimes we wait too late to communicate. Do it early and often. Delays + compromised care = lives lost. Communicate with a sense of urgency.
- Orlando:** Transparency. Be transparent with leaders and finance teams so everyone knows implications of something happening.

How do you manage budget after the budget is already in place?

- Staley:** We should be tracking budgets. Shouldn't be surprise where we stand at end of quarter. Sometimes good or bad, but often shades of gray. Which allows you to be nimble.
- Guyton:** Have plans for both over and under budget. If extra money, what can we do for patient satisfaction, people, quality, innovation, etc.?

If efficiencies in one bucket, can you move money around to another?

- Orlando:** We battle with finance teams every year because services added, products added, etc. Not as simple as adding 3% to budget every year, have to make it a constant process.

Guyton: Know your system, and know where they're using money by end of the fiscal year. Foundation dollars also good source.

Staley: Work closely with strategy folks. If you find \$5 million, they can help find a plan to execute on.

How have budget processes changed?

Staley: Leadership getting smarter about how we do business. They understand unknown and escalation. When I go to them with challenge, they understand it and look for solutions. Industry as a whole is collaborating more. When there's a new challenge, like the pandemic, we talk on the phone to ask what others are doing.

Pandemic changed the budget process. How has it positively affected your process?

Guyton: Covid showed us how agile we can be. When Covid was here, we had hospitals in parking lots. We had CEOs as nurses. We expedited capital planning and operating expense process. Used to take a year, now it gets approved at lightning speed.

Staley: Our relationship with field staff improved. The spirit of collaboration continues on. More open dialogue with HCAI field staff, and our teams have learned to work more efficiently.