6th San Francisco Bay Area | Northern California
Hospital, Outpatient Facilities & Medical Office Buildings Summit
September 26, 2023

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 – NorCal Chapter
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Agenda

- How the Future of Healthcare Delivery is Rewriting Today's Capital Spending Plans
- Behavioral Health Facilities: What Was, What is Now, and What is Next
- Spotlight Sessions – Money Saving Solutions
- Renovations & Adaptive Reuse Projects for Healthcare | Life Science
- Spotlight Session – Money Saving Solution
- Cost-Effective, Energy-Efficient, Sustainable, and Resilient Healthcare & Research Facilities
- The State of California's Public Health
- Healthcare & The Need for Robust Acceptance Criteria in Commissioning
- Managing the New Paradigm of Change

Corporate Realty, Design & Management Institute, AMFP, and AMFP NorCal want to thank these sponsors for making this educational and networking program possible

Reported by Trak Lord, a San Francisco based freelance writer, traklord08@gmail.com

Welcome

Heather Chung, President, AMFP NorCal
Alan Whitson, RPA, President, Corporate Realty, Design & Management Institute

Heather Chung kicked off this year's Northern California Hospital, Outpatient Facilities & Medical Office Buildings Summit with a heartfelt call-to-action for all attendees: "Everyone in this room is a leader. Together we have the unique ability to envision, advocate, and create and deliver new places and experiences that the world needs."

For Chung, "Healthcare Hits The Reset Button" is about a smarter future with better resources, better care, better access, better use of time and money, and ultimately the betterment of people and their communities.

To wit, the thread of community-centric, people-focused healthcare was a throughline that formed the backbone of many a discussion and presentation across the summit. You will also note the "cautious optimism" expressed continually, even in the face of alarming trends that pose challenges anew for not only healthcare, but the people in this very room that focus on the planning and construction of the facilities that will deliver that healthcare. Fear not; the overall tone was of undeterred persistence, resilience, and learning and working together to confront these imminent issues head-on, as demonstrated in p. 4 that over 50% of the attendees are already working on New Construction.

How the Future of Healthcare Delivery is Rewriting Today's Capital Spending Plans

Supina Mapon, Healthcare Market Strategist, DPR Construction

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- **California's Economic Crystal Ball Remains Muddy, nor is it cleare in the Bay Area–** several of the national economic factors are largely exacerbated or flipped in the state of California. Mapon is "shocked" to have found in her research that not only is CA down ~2.3M people, but that a third of that number left in just the past 2 years. SF itself is down 45%, and currently ranks next to last (above only Baltimore) out of 25 major metropolitan regions. "Doom Loop" allegations are likely exaggerated, however.
- **Bay Area is going to get "bigger"–** Mapon suggests that within 10 years, what we know as "The Bay Area" could stretch as far as Santa Cruz, Modesto, and Sacramento based on how those areas are seeing such large percentages of Bay Area relocations from the pandemic. In fact, Sacramento experienced a 70% hike in relocations from SF.
- **Median Age is going to determine the biggest healthcare and health facility needs–** SF is projected to grow 2.8% over 5 years, but over 50% of that growth is projected to come from individuals 50 years or older. A staggering 36% alone will come from people 75 years and older. "Boomers," Mapon notes, are "sicker than they've ever been" but are more attentive to their chronic conditions. They're going to soon need more beds, more caregivers, and more facilities. Mapon cites this as an opportunity and trend that cannot be ignored.
- **Can AI solve Burnout? –** Mapon notes that though Healthcare employment is back to to pre-pandemic levels, burnout has nearly doubled in that same time. This is especially critical given the previous data about the surge in senior care that will be necessary, and points to machine learning and generative AI, such as ChatGPT, that can ameliorate physician burnout and help already-stretched operating budgets by automating and making efficient several different functions. She notes it is early, but points to ChatGPT's meteoric 60 day path to 100M users.
- **The Multi-million dollar question:** In the Bay Area, Outpatient growth is ticking up 1% per year, while Inpatient is doing the exact opposite. What will this mean for builders and healthcare professionals? Mapon suggests the Bay Area needs more behavioral health facilities to keep up with these trends, along with a shift in thinking to consider cost not in price per square foot, but value.

Behavioral Health Facilities: What Was, What is Now, and What is Next

Sarah Bjorkman, Executive Director-Healthcare, Kitchell CEM
Brian Giebink, AIA, LEED AP BD+C, EDAC, Architect | Behavioral and Mental Health Practice

Moderator: Harry G. Lawrence, CPSM, Principal, Terracon

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- **A very sad history–** Bjorkman provides an overview of the beleaguered place of Behavioral and Mental Health in both the country and the state, leading to a nearly 97% decrease in beds over 70 years, along with a massive discrepancy with the rate of incarceration in California of people with BH/MH issues. “A jail is not the right place to treat a person with mental illness,” and neither are EDs, where someone could end up occupying a bed that would be better served for a Med/Surg patient.
- **The future looks bright in California, however–** California has the highest amount dedicated to mental health spending in the country, and $2.2B in grants was released last year alone. Communities are coming together, even across county lines, to do joint grant applications for local treatment facilities that would serve their region.
- **For MH/BH, the most important tool is the environment–** Per Giebink, equipment such as MRIs or X-Ray machines doesn’t make nearly as much difference compared to a secure, calm, natural feeling, daylighted room or facility for treating BH/MH patients. These environments need to encourage engagement and empowerment (cites a facility that even had a woodworking shop for patients) in order for patients to both rehabilitate and regain confidence. He notes that in some recent designs and implementations, facilities have forgone a traditional caregiver’s station to accentuate welcomeness and openness and further integrate staff into patients’ healing.
- **FGI Guidelines are still trying to keep pace–** Giebink has spent 6 years working to revise FGI Guidelines and there’s still a long way to go to having guidelines that address the BH/MH environment. They’ve made progress in terms of safety, even square footage, but the humanness is still missing. Giebink is however hopeful, noting that rising public awareness and de-stigmatization are pushing BH/MH from “necessary function” to what he hopes will be a valued community asset.
- **Crisis centers and EDs are not a panacea–** both panelists and moderator, responding to audience questions, agree that BM/MH patients require radically different treatment than traditional Med/Surg patients. Crisis centers and EDs are complex with varying processes. BH/MH patients need consistency, established and holistic workflows, which are things to consider as future facilities are mapped out and built.

Spotlight Sessions – Money Saving Solutions

Kim Dinardo - biamp

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- **Noise is a bigger risk than you think–** Not only are overheard patient conversations potential HIPAA violations, but loud hospitals disrupt sleep and impact patient experience, leading to poor HCAHPS scores ("How often is your room quiet at night?") that can jeopardize Medicaid reimbursement.
- **Thoughtful architecture goes a long way to saving money–** sound masking and paging enhance privacy, control excessive noise, improve patient satisfaction scores, and in the case of paging enable instant communications between providers.
- **Case study: UVM Medical Center–** in the quest for HIPAA compliance, reducing noise distraction, and addressing low patient survey scores, UVM installed Biamp sound masking in 24,000 square feet of patient areas, including emitters in ceilings, hallways, nurses stations. Results: increased patient satisfaction reported in person and on HCAHPS scores.

Tyson Gannon - AD Systems

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- **Sliding doors ready for complex spaces–** sliding doors already help check boxes for acoustics compliances, but new facilities have an ever growing list of needs that new technologies can help address.
- **AD Systems Door Visualizer–** this virtual and interactive tool provides critical data and analysis on how sliding doors for pharmacies, admin areas, X-Ray rooms, and others can satisfy safety and security needs while also saving 30-50 feet per opening (when taking into account ADA guidelines and swing-back).
- **AD Systems Doors offer variety of compliance checks–** Fully gasketed, tested for air infiltration/exfiltration, self-closing, and compatible with access control systems. They also offer STC 34 Performance, touchless operation, fire rating, barrier-free bed lift assemblies and improved service life. Additionally, Telescoping doors are available for smaller spaces.

Renovations & Adaptive Reuse Projects for Healthcare | Life Science

Chris Ahn, PE, LEED BD+C, Project Manager, Arup
Gail Caldwell, RN, BSN, Clinical Strategist, MillerKnoll
Damian Hamlin, Director Integrated Design, McCarthy Building Companies
Scott Siler, Sr. Project Manager, Kaiser Permanente
Belinda Young, AIA, LEED BD+C, Regional Leader of Healthcare, HOK

Moderator: Alan Whitson, RPA, President, Corporate Realty, Design & Management Institute

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- **Best practices in design-built healthcare architecture (renovation)–**
  - Get stakeholders involved in the grand vision early, not just the cost-driven short term vision.
  - Consider the communication plan to both the department AND the end-user (patient) while you occupy the building.
  - Existing campuses struggle with as-builts. Do not assume they are true, define your existing conditions and make the best use of construction time.
  - There tons of space coming online with acute hospitals facing decommission - don't let the opportunity of breathing new life into a space overshadow the complexity, costs, and research required to do it right.
- **Start with the "who" (end-user) and the "why" in mind–**
  - Without end-user understanding, the end result may not be useful to the patient or the community.
  - Understanding the "why" helps create thinking around solutions and opportunities, which includes mapping design to the physical investigation of the site, especially with regard to as-builts.
  - Take advantage of master planning opportunities whenever you get the chance.
- **How to avoid the square peg / round hole conundrum–**
  - Become experts at creating a bigger hole. It's unrealistic to think templated rooms and layouts will be copy & paste sight-unseen. There's always going to be customization, so prepare accordingly.
  - Decide early on in the process whether you will allow for modifications to your templates, and keep the focus on the primary objective - space and service.
  - Communicate earlier, align earlier. Some folks have never been through this process, whether on the contracting side or the departments in the occupied building.
- **How to build a cohesive team that delivers on the "why" of the end-user–**
  - Get ASHJs and OSHPD on board early. They want to be involved and collaborate, because what took you 2 days in OTC review with a single permit 5 years ago could today take 6 months and over a dozen permits. Maintain a primary contact, engage reviewers, and treat them as a cohort.
  - Bring in stakeholders and partners early and establish conditions of satisfaction, such as communication cadence, frequency, preferences on updates. Treat them just like you'd treat your client.

    - Treat your manufacturers as a resource, they know more about building schematics and infrastructure and end-user process improvement. They often even offer in-services and training for working with material logistics like medications or supplies.
    - Don't get siloed - there are real-world logistics at play that may not map to what you've designed, especially a "live" building.
- **Final words of advice from panelists–**
    - Young: Love the people you work with. Foster a culture of collaboration.
    - Hamlin: Patience and grace. These are hard jobs.
    - Siler: Designers - don't be afraid to stand behind your designs, especially with OSHPD. Design for what you want in 5 years.
    - Caldwell: Document everything. Make it a dedicated function from the beginning, a living document that can be a legacy to future care providers and builders.
    - Ahn: Think about the things that frustrated you on your last project and make sure you don't make the same mistakes.

Spotlight Session – Money Saving Solution

Johanna Welsh - Dir Natl Accounts - STARC Systems - 5 Ways ICRA 2.0 Impacts You Temporary Construction Wall Choices

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- **Work spanning multiple shifts now a Class III precaution–** temporary hard barriers minimize and mitigate patient risk from construction.
- **Class IV+ Temporary Walls need to be dustless–** STARC Systems provides dustless, tapeless, easy-to-install (no cutting) temporary barriers.
- **Negative air is now a Class IV+ requirement–** these are non-traditional construction environments, and to better service them STARC Class IV+ barriers have negative air monitors and HEPA filter compatibility.
- **ICRA 2.0 reinforces existing fire safety standards for temporary separation walls–** STARC offers FireblockWall and RealWall to accommodate respective compliance checklists for Class IV+ and NFPA 241
- **For Class V, anterooms are now obligatory–** eliminate plastic and move anterooms inside to prevent dust in the most sensitive patient areas. STARC cites UCDavis use case illustrating versatility.

Cost-Effective, Energy-Efficient, Sustainable, and Resilient Healthcare & Research Facilities

Raj Daswani, PE, Principal, Arup
Anna Levitt, PE, Manager of Energy, Utilities & Infrastructure, UCSF Health

Moderator: Alan Whitson, RPA, President, Corporate Realty, Design & Management Institute

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- **What is the big "value-add", and how to achieve it –**
  - Raj Daswani (RD): We're changing the definition of "cost-effective", shifting from the cost of the utility to what is the carbon impact of every dollar spent. Heat recovery systems, chillers, air coil systems, and with storage we actually get to reuse energy.
  - Anna Levitt (AL): Heat recovery is a humongous opportunity. UC, for examples, has a new goal to be carbon neutral by 2025, and now a goal of being fossil fuel free by 2045. UCSF pays $27M in utilities. Through efficiency and decarbonization, if you could save 10% you can do a lot with that money.
- **Strategies and technologies to utilize –**
  - RD: When evaluating new technologies, consider its future. Take Hydrogen for example. It's not there yet but if we want to transition to a hydrogen fuel cell when that becomes a reality, what does the preparation look like? How do we make new infrastructure flexible enough to accommodate a carbon-free future?
  - AL: The most promising technology has already been around for decades - heat pumps, heat recovery systems, chillers, energy storage. Go back to holistic planning for decarbonization, make a master plan and make every single project count. And think as hard about your old building as you do about your new buildings.
- **Final words –**
  - AL: Get facilities operations in the room as early as possible. Keep hiring women,
  - RD: Healthcare buildings account for 5% of buildings, yet energy accounts for 10%. Let's bring that number back down. Think about future-proofing your buildings, and act urgently and with flexibility.

The State of California's Public Health

Rita Nguyen, MD, Assistant Health Officer State of California, Deputy Director of Population Health California Department of Public Health

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- **Our system is organized around disease care, not health care–**
    - Access to care only comprises about 10% of what makes us healthy. 50% is healthy behaviors and healthy environments. Space and income to exercise, access to healthy foodstuffs, and quality of life. Data also shows significant discrepancies across racial lines.
- **Access to better, healthier food makes a data-backed difference–**
    - The 2017 Food Pharmacy Program Nguyen piloted reconciled issues of hypertension equity between White and Black/African-American patients, 8% to 3%. Food is now a covered medical benefit as of 2021 as part of California Medicaid.
    - UCSF Healthy Beverage Initiative removed sweet & sugary beverages from facilities in 2015. Since then, measurable decline in risk factors such as waist size, blood pressure, and insulin levels, with greatest gains seen in custodial staff and other less senior staff, most often non-white and lower economic level.
- **Poor behavioral health is killing us, and disproportionately affecting non-whites**
    - Top 10 increases in death in last 10, 5, 2, and 1 years, respectively, can all be attributed to behavioral health - substance abuse, drug overdose, suicide, and others.
    - Data from pre-pandemic to today demonstrates persistent disparities despite leveling out, pandemic exacerbated past trends. Pandemic adversely and disproportionately affected the latino population and people of color.
- **Rebuilding post-pandemic provides opportunities to do it right**
    - Renewed interest in public health will provide more ways for public health and healthcare to collaborate and build a more equitable system.
    - Ngyuen: Measure and define racism. Get staff and team to acknowledge the existence of racism with intentionality and organization, and hire a black person.
- **Change can look, and start, small-**
    - Nguyen notes how her food program began with going to an SF food bank and requesting food for her patients, and large healthcare orgs can collectively demand better access to better quality foods.
    - Nguyen also recommends to "find more empty space to evaluate and be mindful about what you want to do. Protect just 30 minutes of your day and ask yourself, 'What do I want to work towards?"

Healthcare & The Need for Robust Acceptance Criteria in Commissioning

Elliot Alvarez, PE, Associate Principal, Altura
Sandy Renshaw, PE, Principal Mechanical Engineer, Kaiser Permanente

Moderator: Sarah Katsikas, Altura

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- **Successful Commissioning requires real-time data and collaboration–**
  - There's a huge variance in quality and the means of delivering projects, leading to wildly divergent outcomes. Altura takes on dozens of projects per year, and now utilizes real-time analytics in the actual commissioning process to expose areas of improvement, outliers, equipment not meeting criteria in order to make buildings (and the act of building them) work better.
- **Real-time data delivers higher rate of Substantial Completion**
  - Commissioning fails because of poor planning, tight scheduling, understaffed builds, and most importantly, an inability to verify that systems and equipment are doing what they're supposed to be doing.
  - With Altura's real-time data dashboard, data is fed throughout the construction phase to show whether equipment and systems are meeting acceptance criteria. This gives the project stakeholders proactive insight into rectifications before the project is jeopardized.
- **Get Facility Ops involved as soon as possible–**
  - Sandy Renshaw (SR) notes that although Fac Ops often have a lot on their plate and won't be able to see the project until the later stages, he nonetheless makes every effort to work with them and keep them updated.
  - Elliot Alvarez (EA) adds that it's crucial to keep the commissioning agent involved throughout the warranty period as you are "guaranteed to have new issues". For example, Fac Ops would need to learn how to react to a peak day of humidity.
- **Elliot Alvarez doesn't "trust" EUIs, and has considerations on how to handle:**
  - Basic design criteria can prove out the model 90%-100% of the time. Design works.
  - Controllability: if you change the room pressure set point, can your systems react to that? Everything needs to be working as a system, and first year operators are always struggling with this.
  - System performance: What's the best criteria that you can prove during constructions? Get your design and modeling teams to help, and ask them to stand behind their systems.
  - "Can you prove EUI with a week's worth of data? Probably not. It's probably better to build in, contractually, a year's operation to truly understand it.
- **How can designers make this process better?**
  - SH: Use your energy models to develop control values and prove out the equipment. Don't believe the as-builds, do your assessments.
  - EA: Take pride in the performance and push your envelope. And find the manufacturer that can make your performance goals! Stop buying from manufacturers who underdeliver.

Managing the New Paradigm of Change

Andrew Hall, Vice President, SLD Technology
Andrea Hyde, CID, CHID, NCIDQ, International Healthcare Facility Planning & Design Consultant, Hyde, Inc.

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- **Andrea Hyde says "Change is scary as hell, that's why we need to emphasize the humanity of it."**
    - Housing is doing better than healthcare- healthcare is at 15% efficient and in danger of being irrelevant.
    - Legacy methods in ORs and critical environments such as improving schedule and maintaining costs & quality are no longer good enough for constantly evolving compliance and regulations.
    - We can look to other models, outside of healthcare, for inspiration.
- **Hospital infrastructure is wildly outdated, costly, and risky**
    - St. Luke's in Boise wanted to reduce SSI in Orthopedic ORs, and visited Micron (semiconductor manufacturer) and a tissue harvesting facility. They found both facilities had more robust air handling, along with holistic approaches to air quality such as limiting the number of people per room; sensor-based solutions that don't require more bodies; and ensuring that attire is discarded after leaving the cleanroom.
    - Using the learnings from these visits, they implemented a new program and reduced SSIs by 50%, saving over $2M.
    - Treat ORs the way Intel et al. treat cleanrooms.
- **Ancient Tech can still be solid tech (that saves you money)**
    - 30% of San Francisco buildings are not medical-friendly because of ceiling heights that cannot support gravity-based plumbing.
    - Hyde went to great lengths to research Vacuum-Based Plumbing (operating in Paris for centuries) which can run with pumps and containment without the same restrictions, in a cost-effective, modular fashion.
    - Relocating a gravity toilet at Stanford Health cost $60k and took 2.5 weeks. With modular vacuum plumbing, relocation could be done the same day, in the same room or facility, at a mere fraction of the cost.
    - Hyde cautions that "the EPA has its eyes on drywall." Better get in front of modular construction, pre-fab, and clean infrastructure like vacuum-based plumbing while you have the time and money.