ASID and IDC present:
IMPACT SUMMIT 2015
Health + Wellness in the Built Environment

Insights & Outcomes
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Health and wellness rank high among our nations’ social priorities. Our buildings, we have come to understand, have contributed to the problem. Evidence continues to mount demonstrating the connection between wellness and constructed environments. Good design of the spaces in which we live, work, play, learn, and heal can make an impact on our physical and mental health.

Health and wellness are a core part of the mission of the American Society of Interior Designers (ASID). The Society is addressing issues related to health and wellness through education, knowledge sharing, advocacy, community building, and outreach. In addition, the ASID Foundation supports design-related research initiatives in areas related to health and wellness, among others.

In an effort to stimulate dialogue and foster action on ways to further improve health and wellness outcomes in the built environment, ASID teamed with the Interior Designers of Canada (IDC) to establish an annual Impact Summit. The event seeks to convene a community of leaders from the business, government, and nonprofit sectors to forge innovative design solutions for North America’s most pressing challenges in the built-environment. The inaugural Impact Summit took place August 6-7, 2015 on the campus of the University of Florida at Lake Nona. This report presents key insights and outcomes from that event.
Design Principles and Practices to Improve Health and Wellness in the Built Environment

Three plenary sessions focused on ways designers, working collectively with others in the built environment, healthcare, government, technology, and industry, can impact health and wellness. During the course of the event, attendees learned how taking a “human centered” approach to designing buildings and interiors results in better health and wellness outcomes for occupants.

They explored ways to effect change in building codes to improve standards for health, safety, and wellness. And they discussed how to involve all members of the design team, clients, and stakeholders in an integrative design process that would result in more innovative and higher quality health and wellness design solutions.

From the insights and best practices shared, the following principles emerged:

- Specify the healthy choice. Design spaces and incorporate interventions and products that promote health and wellness. Eliminate toxins and contaminants.
- Take into consideration not just how each element in the design affects health and wellness of the environment, but also their interaction with each other and occupants.
- Design solutions must address mental as well as physical health and well-being.
- Design to a higher standard than code compliance. Focus on the impact of the environment on occupants.
- Employ “design empathy.” Consider how the physical environment will affect individuals who perceive space and respond to stimuli differently than you do.
- Design for inclusiveness. Acknowledge the diverse needs of occupants and create spaces that are respectful, intuitive, and comfortable.
- Use an integrative design approach. Draw on the knowledge and expertise of a variety of professionals and specialists, starting at the very beginning of the project, to optimize responsive, innovative solutions.

Call to Action: Challenges and Opportunities

As a means to help drive ideas to action, attendees self-selected to participate in breakout sessions in one of three building sector working groups – residential, commercial, and institutional – to discuss challenges and barriers to achieving integrated health-oriented solutions. In follow-up breakout sessions, these same working groups met to discuss opportunities and strategies to overcome the challenges and obstacles identified in the previous session and formulate calls to action for the industry. (See tables on pp. 24-27)
Health and Wellness in the Built Environment

Health and wellness rank high among social priorities. Healthcare spending in the United States exceeds $3 trillion annually (more than $9,500 per person), nearly 18 percent of the total economy.1 Canada spends less but has seen its healthcare expenditures double in the past decade.2 These numbers do not include the impact of illness and disability on the economy, society, and the lives of individuals and their families. By one measure, for example, the unwell workforce costs employers $153 billion annually.3

Our buildings, we have come to understand, have contributed to the problem. Evidence continues to mount demonstrating the connection between wellness and constructed environments. Good design of the spaces in which we live, work, play, learn, and heal make an impact on our physical and mental health. Light, color, air quality, and access to nature can all play a role, as do the materials being used and the practices employed throughout the project lifecycle. How these factors impact health and wellness, as well as productivity and cognition, is increasingly a subject of discussion among businesses, health care providers, government entities, educators, consumers, and professionals working in the built environment.

2 Canadian Institute for Health Information. Health Spending Data, 2015.
In an effort to stimulate dialogue and foster action on ways to further improve health and wellness outcomes in the built environment, ASID and the Interior Designers of Canada (IDC) established an annual Impact Summit. The event seeks to convene a community of leaders from the business, government, and nonprofit sectors to forge innovative design solutions for North America’s most pressing health and wellness challenges in the built-environment.

The inaugural Impact Summit took place August 6-7, 2015 on the campus of the University of Florida at Lake Nona. It began with a tour of Lake Nona Medical City (see Appendix III), a 650-acre health and life sciences park for medical care, research, and education, and included provocative discussions from practitioners and thought leaders in healthcare, design, technology, government, education, and media. Attendees also took part in breakout sessions to discuss opportunities and strategies, as well as challenges and barriers, to achieving integration of health-oriented design activities. (See Appendix I for the complete Impact Summit 2015 program agenda, Appendix II for speaker information.)

Three plenary sessions focused on ways designers, working collectively with others in the built environment, healthcare, government, technology, and industry, can impact health and wellness. During the course of the event, attendees learned how taking a “humancentered” approach to designing buildings and interiors results in better health and wellness outcomes for occupants. They explored ways to effect change in building codes to improve standards for health, safety, and wellness. And they discussed how to involve all members of the design team, clients, and stakeholders in an integrative design process that would result in more innovative and higher quality health and wellness design solutions.

Presenters engaged in a rich exchange of ideas and experiences, offering a wide range of perspectives, from designers and architects, to technical specialists and product manufacturers, to clients and occupants. Their insights and best practices, summarized in the following pages, provide a sound foundation from which to build a healthier future.
Keynote speaker Alex Chan, director of national health at the Clinton Foundation, set the tone for the discussions and insights to come by encouraging attendees to join with ASID in the model of the Clinton Foundation in a collective action to bring about changes in the built environment that will improve health and wellness outcomes. This undertaking, said Chan, “is about harnessing our passions and our interests in a way that aligns all of our efforts toward a common goal.”

Social determinants of health and wellness

Citing statistics compiled by the University of Wisconsin Population Health Institute, Chan pointed out that clinical care accounts for only 20 percent of a person’s health status. The remaining 80 percent is influenced by social determinants of health, such as income, education, occupation, eating, and exercise habits – including the physical environment. “It’s that space that you interact with; it’s the infrastructure that changes your body over time, given different inputs and outputs,” said Chan. “And that’s where we as a collective today can all move – the physical environment and its intersection with health.”

When engaging with collective bodies, communities, and organizations, the Clinton Foundation employs three guiding principles:

- Meet People Where They Are At: don’t assume what they know or don’t know about the issue, avoid jargon, and use a common language all can understand
- Utilize Partnerships and Purpose: forge bonds, use data and metrics to measure impact, develop scalable models that can be replicated in other organizations and communities
- Make Health the Default Choice: integrate the preferred healthy behavior, choice, or outcome into the solution
Collective action model

To that end, Chan offered a model for transforming communities and organizations through collective involvement as practiced by the Clinton Foundation in its many initiatives. One of the major advantages of working collectively, he explained, is that it magnifies the contribution of each of the participants, allowing them to achieve more with the efforts and resources they bring to the table, and thus creating greater impact. He cited as one example the ASID initiative to develop Protocols for Health and Wellness in Design, a 2014 Clinton Global Initiative Commitment to Action project which involves not just ASID and its 15 partner organizations on the project, including ASID Fellow designers, but actively seeks the participation and input from a wide range of professional peers and a cross-section of stakeholders engaged in the built environment, healthcare and wellness, and policy, to deliver best-in-class continuing education for interior designers and architects on this emerging approach to design.

Specify the healthy choice

Regarding the last point, which is the ultimate goal, Chan stressed that the user does not have to know that they are opting for the healthy choice. It is built into the design of the space or product as a given. “It is something that you as interior designers are already prepared to do,” said Chan, by specifying healthy furniture or creating spaces with better systems that reduce pollution and contaminants in the air. Making health the default choice “is absolutely critical,” he said, “but if you do everything else right, that is the result”.

Making health the default choice “is absolutely critical”.

Plenary 3: Integration of the Disciplines: Is Integrative Design the Key to Health and Wellness Success? Angela Bourne, Lisa Fulford-Roy, Anthony Guerrero
Health and Wellness: Factors in the Built Environment

Throughout the course of a normal day, we usually are not aware of how our bodies and minds are impacted by the physical environment. Yet, research shows us that we are constantly interacting with many factors that affect our mood, cognitive ability, and physical health. As Alex Chan noted, over time these “inputs and outputs” can change our bodies, sometimes resulting in illness or disability. Moreover, each of us interacts with a given space differently, depending on our own physical and mental condition, needs, sensitivities, and cultural orientation. All of which adds to the complexity of designing spaces to improve health and wellness.

The built environment as ecosystem

Presenters touched on a number of these factors in their remarks. Lisa Fulford-Roy, senior vice president, marketing principal with HOK’s Toronto office, observed that the built environment is not static but functions much like an ecosystem, with each element, including occupants, affecting and being affected by the others. The architect or designer needs to consider not just how each product or solution might impact health and wellness, but how all of them interacting together could positively or negatively affect occupants.

Design interventions that impact health and wellness

Healthcare designer and current president of the Center for Health Design, Rosalyn Cama, FASID, NCIDQ, EDAC, referred to Dan Buettner’s “Blue Zone” work on factors, habits, and practices common to communities that have a high incidence of longevity. She cited several that relate to design interventions that can positively impact health and wellness:

- Having access to nature/outdoors
- Daylighting (siting building parallel to the sun, optimizing morning sunlight, using technology to replicate daylight/stabilize circadian rhythm)
- How you move people through a space/ease of wayfinding
- Love and support – incorporating places/accommodations for community, family, and loved ones
- Food and nutrition – providing facilities for preparation and provision of healthy choices
- Having control of one’s environment (e.g., temperature, lighting, arrangement)
- Role of culture (e.g., color, pattern)
Designers can also help to reduce or eliminate the presence of harmful substances in the environment. Commercial designer AJ Paron-Wildes, national architectural and design manager (interiors) for Allsteel, talked about the need to minimize occupants’ exposure to toxins, which occur in varying degrees in many manufactured products. When individuals are exposed to multiple toxins, which frequently occurs in built spaces, the combined effects can compound many times over, depending on the individual’s particular immune system.

While it is not possible to eliminate all toxins from the environment, said Paron-Wildes, as a matter of practice, spaces should be properly flushed out to eliminate off-gassing. She also recommended using plants that remove toxins from the air. Her rule-of-thumb in selecting products and materials is to first consider the likelihood of contamination, that is, whether someone could inhale, ingest, or absorb toxins or irritants from the product. If so, they should be avoided.

**Technology in the healthcare settings**

In the opening plenary session, panelists talked about the ways in which electronic medical records and digital communication are changing healthcare delivery and the design of healthcare spaces. Sandra Vance, senior director, interoperability initiatives for the global nonprofit Healthcare Information and Management Systems Society (HIMSS), explained that “interoperability” refers to the ability of different information technology systems and software applications to communicate, exchange data, and use the information that has been exchanged. The goal is to get the right information to the right place at the right time, whether at a nurses’ station, on a tablet in an examination room, or on the doctor’s smartphone, whenever and wherever it is needed.

With better, more current information, practitioners can more effectively monitor patient progress and prescribe appropriate treatments. The presence of the technology, however, can intrude on the practitioner-patient relationship. It has also raised concerns about privacy and data security.

Panel moderator Susan Szenasy, editor and publisher of *Metropolis* magazine, offered the patient perspective that technology interferes with the communication between doctor and patient. Cama agreed, adding that placement and integration of technology remained a design issue in most healthcare facilities. Doctors have to prop their tablets on a counter in order to check the patient’s medical data, forcing them to turn their back on the patient. She predicted the technology will evolve to where the doctor can consult a handheld device and maintain personal contact with the patient.
Using technology to monitor impact

A question arose as to whether sensors and other smart technologies could be used to track user data to determine whether health and wellness interventions built into the design were having their intended impact. Vance said she was not aware that such technology currently existed but that it might be possible in the future. In a later session, Paron-Wildes said she wished she could swipe a smart watch or phone to provide all her medical data at intake and to track vital signs and share that data with the appropriate providers. It would reduce patient stress and redundant paperwork.

Customizing environments using smart technology

Another health and wellness application using technology that already exists employs sensors and automated controls to adapt lighting, temperature, and other environmental elements to suit individual needs. It has already been demonstrated in model smart homes, and could be a solution in healthcare and other environments that care for persons who have high sensitivity to light, sound, or color.

Health, Safety, and Wellness: Codes & Standards

Building codes, regulations, and standards exist to protect the health, safety and welfare of occupants. But these codes, by requiring only bare-minimum standards for buildings, can be counterproductive to creating a healthier built environment. In the second plenary session, panelists discussed what can be done to improve these measures to mandate a higher legal standard that includes health and wellness.

Exceeding the minimum standard

Panel moderator Mara Baum, healthcare sustainable design leader at HOK’s San Francisco office, teed off the session, reminding the audience that health, safety, and welfare codes and standards dictate the minimum legal standard to which builders, engineers, architects, and designers must adhere. Rating systems like LEED and the WELL Building Standard seek to establish a higher standard, but are voluntary. “We can clearly go way above and beyond most rating systems,” she said. “Health and wellness is a higher target to reach.” Wellness standards also need to address mental health and well-being, she added, as well as physical health and safety.
How codes impact health and wellness

In order to raise the minimum requirement and ensure compliance across the industry, practitioners need to advocate for changes in the code. Sara Yerkes, senior vice president, government relations with the International Code Council (ICC), reviewed some areas of the current code that address health, safety, and well-being:

- Plumbing codes set standards for water quality and proper sanitation.
- Property maintenance codes have provisions for pest control and proper disposal of trash and other refuse.
- Mechanical codes cover HVAC systems, indoor air quality, and noise control.
- Accessibility codes include requirements for the proper construction and safety of ramps, adequate clearance for persons using wheelchairs, and placement of water fountains, among others.

“We set the minimums,” she said, “but we encourage the state and local jurisdictions to go beyond the code.” She encouraged interior designers to get more involved in the codes development process. “You have a right to be at the table. You can submit code changes, you can comment on code changes, you can attend the code hearings. You can vote on the final action. You have a voice all along the way.”
Performance vs. compliance

“We need to shift the mindset of code developers,” observed David Eisenberg, executive director for the Development Center for Appropriate Technology. Codes were intended to ensure buildings are healthy and safe for occupants, but historically they have focused on risk avoidance and minimizing risk. Change occurs or new codes are developed reactively when something disastrous happens, not proactively to elevate standards. As a consequence, codes tend to be prescriptive rather than performance-based; they lock in technology and design solutions rather than encourage innovation. “Using a performance code you need expertise to demonstrate that the design you’re proposing will in fact meet the intent of the code,” he said, not just demonstrate compliance with the letter of the law.

Research and code development

One way to improve codes, offered Bryan Steverson, from the Office of Federal High-Performance Green Buildings, U.S. General Services Administration, is to bring research into practice. “The challenge I see in codes is, you have that knowledge that you’re gaining through your research, but then how do you get it down into practice, how do you actually get researchers into the codes discussions and share their knowledge and come up with solutions on how to optimize whatever they’re trying to research?” Lisa Barnard, with the Center for Building Excellence, BASF, agreed, adding that her company conducts a lot of research and is always looking for opportunities to share that knowledge and engage with others to stimulate design and innovation. “There are a lot of things that have to happen to make that shift to going beyond code,” she said.

Need for unified standards

ASID CEO Randy Fiser pointed out that there are a multitude of organizations, standards, and guidelines in the industry at present, each addressing some part of the issue. “How do we move through this?” he asked the panel. “Because we have the ultimate goal of achieving health and wellness, yet the complexity of the system that we’re operating in is, I think, one of the biggest barriers to achieving health and wellness. How are we going to take our leadership and drive toward an ultimate goal we can all get behind?”

Eisenberg commented that part of the difficulty is that there does not yet exist system principles and system goals for the built environment. The current codes are an agglomeration of measures adopted over time; they were not designed as a coherent, unified system. Each part of the industry is looking at the issue from its own perspective. “There’s no overarching entity that is actually looking at all these things and trying to coordinate them, and trying to create some sort of ‘unified field theory’ of how we get to a better built environment for everybody.”

How are we going to take our leadership and drive toward an ultimate goal we can all get behind?

Steverson concurred. “The whole point of this topic,” he said, “in my opinion, is to reguide, redirect the conversation into how we can leverage codes and standards to make things, change things from being completely average to really awesome.”
Healthy Interiors: Design Approaches and Strategies

Along with identifying factors that impact health and wellness outcomes, panelists talked about the need to adopt different approaches and strategies for how projects are planned, designed, and managed. Two key principles emerged from their discussions: (1) design from the perspective of the occupant – how they experience, interact with, and respond to the physical environment; and (2) use an integrative design approach that involves and draws on the knowledge and expertise of all the practitioners, suppliers, and stakeholders throughout the entire process to optimize innovation and positive outcomes.

Occupant-centered design

Until fairly recently, builders, architects, contractors, engineers, and clients focused on issues related to construction, cost, and performance. Their approach to design was building-focused. But that has begun to change. During her opening remarks in the third plenary session, Lisa Fulford-Roy said she is seeing a marked trend toward occupant-focused design: “For the last two or three years the conversation has really shifted to a human-centered focus and organizations really truly understanding human interaction with the physical space, and wanting to understand the value of that, for a whole host of reasons. People are part of the value equation in the process now in a very compelling way. It’s now moving to a really human-centric focus around productivity and engagement, and well-being, both physically and mentally.”

Speaking as a client and an end-user, Deborah German, M.D., vice president for medical affairs and dean of the College of Medicine at the University of Central Florida, who has directed the development and design of the medical school in Nona Park, said she wanted the new facility to be a model for how to design for health. For her that meant creating a “life-giving” building: one that was human-centered, welcoming, and supportive, that enabled healthy activities and encouraged interaction and community – a building people would be reluctant to leave at the end of the day. She wanted everyone who used the facility – faculty, students, administrative staff, patients, and visitors – to be taken into consideration and to have a voice in the process. To achieve that, she reflected on “how do I want my building to feel?” rather than look or function, using a process of “thinking backward” from effect to cause, from feeling to design. She considered every detail, from how to provide everyone with access to daylight and nature views, to making sure furniture and chairs were comfortable and appropriate for their use, to what types of surfaces would be best to maintain cleanliness and attractiveness over time.
Design for inclusiveness

Most designs assume a range of “normal” uses and responses. Panelists pointed out that in reality individuals experience and react to environments in many different ways. In the case of persons with special needs, particularly those who are neuro-diverse, practitioners must employ “design empathy,” said Paron-Wildes. “You have to try to put yourself in someone else’s shoes and experience that environment differently than how you are, which is tough. Working with someone with cognitive development issues, or even someone on the autism spectrum, what I’ve learned is how I walk into an environment and experience that environment is completely different than how they do. And it depends on where they are on the spectrum, and it depends on what sensitivities they have.”

Drawing on concepts like Maslow’s Hierarchy of Needs and Wilson’s work on biophilia regarding our instinctive response to spaces where we feel safe and spaces where we feel threatened, designers can integrate elements into the environment to help individuals move through a new space with confidence, which reinforces their sense of independence and self-esteem. Incorporating wayfinding cues and placing basic components like restrooms, elevators, and stairwells where people are accustomed to find them can help them navigate an unfamiliar environment more easily. When someone walks into a building for the first time and sees a staircase, they don’t have to ask how to get to the next floor. The design gives them the answer. That’s reassuring. Providing a map or floor plan diagram that allows the user to preview a space before they enter it is another helpful tool. “I use the term having the built-environment be a ‘thesaurus for learning,’” said designer and educator Angela Bourne, faculty member at Fanshawe College, Ontario. “Using the built environment as a learning opportunity that happens seamlessly, enabling people to be the best they can be and have control of their life and gaining some independence is a really effective and responsible way for us to design.”

“There isn’t one space or one solution that satisfies every one,” said Fulford-Roy. “We at HOK often refer to it as ‘one-size fits no one.’ Our approach is not to ignore the complexity that people bring into the mix but to really embrace it. Feeling comfortable in a space is really about designing spaces that are intuitive, that are respectful, and that are as encompassing as they can be. They won’t necessarily meet all of the needs of special needs [populations], and we recognize that. We have to weigh what is the priority, who is the customer in that particular environment, and those are the people that primarily are going to be using the space.”
Designing for such complexity and inclusiveness demands a multidisciplinary, multidimensional approach to defining the problem and the solution. That requires buy-in from the client and stakeholders; a coordinated, cooperative effort from all members of the project team; and engagement with experts and advisers from a variety of fields, including those outside the building industry. Moderator Nadiv Malin, president of Building Green, asked panelists how this can be achieved.

Anthony Guerrero, director of facilities and operations at the Natural Resources Defense Council, said you have to move the initial conversations and planning back considerably to allow enough time to establish the context. “Inside experts, outside experts – bring them all in,” he said. “Having that conversation up front makes the project more impactful throughout the rest of the process.”

Educating the clients is crucial as well. Get to know the client and their organization and get them involved in a strategic thinking process, said Fulford-Roy. “We start to look at evidence-based design, we start to look at benchmarking, and research in a different way and bringing that into our conversations with clients without being the specialist, but pulling from a variety of data sources what we think is going to be truly compelling and impactful at a universal level for our clients. Evidence-based design and the research is the key to convincing those CEOs, the C-suite, who want the best for their people but they can’t put a value around it.”

A powerful way to convey your vision to the client and others, added Paron-Wildes, is through stories. “It comes down to human stories” of challenges and needs that real people face and the toll it takes on them and others. “That is the most impactful thing that can happen on the project,” she said. “In the very beginning stage when the project is getting conceptualized, people need to dig-in and get those stories.”

The way forward

Aligning the interests of the industry, clients, stakeholders, and regulators to integrate health and wellness outcomes into the built environment as standard practice seems like a formidable task. Alex Chan offered one approach, engaging parties in collective action. Panelists had some additional thoughts.

Malin commented that to get buy-in, you need to understand what each party values and then demonstrate ways in which what you are proposing links to their values.

Cama stated that the industry needs to continue building the business case for good design, addressing issues such as investment in design vs. return-on-investment through improved outcomes, and short-term expense vs. lower lifecycle costs. She outlined a four-step process for moving forward:

• Define the right questions
• Gather and analyze the data needed to answer the question
• Begin to test interventions in communities who are willing to open up and share
• Push the information out to the great audience of designers, manufacturers, producers, builders, etc.

Dr. German offered another perspective. “We have a lot of data,” she said, “and we are collecting more all the time. We know a lot.” To effect change, though, “we have to convert knowing into doing”. What connects knowing and doing is caring – love, empathy, compassion, wanting to make a difference. We have to want to change to effect change. Often, she observed, it is not reason but feeling that motivates us to change. We need to pay more attention to feeling, to how people make choices based on what makes them happy or what gives them delight or pleasure. Rather than persuade others to change, we can entice them.
As a means to help drive ideas to action, attendees self-selected to participate in breakout sessions over three and a half hours in one of three building sector working groups – residential, commercial, and institutional – to discuss challenges and barriers to achieving integrated health-oriented solutions. The following summary captures key comments and observations from those sessions.

### Challenges & Obstacles

#### TOP Five Challenges, Barriers, and Constraints to Achieving Integration of Health-Oriented Design Solutions

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<td>• Consumer education is critical, but homebuyers are uninformed about codes, housing, or whatever may be available to them in terms of both structural or interior well-being, environmental issues, etc.</td>
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<td>• Relationships to code officials - are they real and constructive, or adversarial?</td>
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<td>• Chemical issues - environmental and human health challenges in codes and standards.</td>
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<td>• Existing homes aren’t set up for special needs populations.</td>
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<td>• Our lifestyle needs are constantly changing. People are all different; houses are all the same.</td>
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<td>• Tool complexity - too many options, inconsistency (including case studies, data reports).</td>
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<td>• Cohesion and co-creation, collaboration by various institutions; Cradle to Cradle, WELL, LEED, U.S./CA SBC</td>
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<td>• Communication: Lots of information and data out there. How do we pass along effectively to various channels (raw material, manufacturer, designer, end user)? Can spend/allocate unlimited time and resources gathering and finding individually. Flow of communication back and forth, to and from.</td>
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<td>• Pay for performance in healthcare gives financial incentives to clinicians for better health outcomes. Clinical outcomes, such as longer survival, are too difficult to measure, so pay for performance systems usually measure process outcomes, such as measuring blood pressure, lowering blood pressure, or counseling patients to stop smoking – what about something similar for all design professionals? An “Integrated Design Process” (IDP) is required in order to achieve healthy, sustainable buildings while avoiding or minimizing incremental costs.</td>
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• Challenge: As a small to mid-size furniture manufacturer, how to remain competitive with limiting/changing codes/guidelines, as well as investment in the research needed to keep up with changing dynamics and drive innovative solutions that are realistic and will be specified and last without being phased out as demand, data, information, and technology changes so rapidly.

• Transparency and compatibility: fragmentation in tools for practitioners, level of transparency; too many tools; fragmented, disparate groups; diet/food restrictions; consumer demand, pay for execution of construction docs currently (can we change the data to outcomes-based?). Transparency of data. Challenge of cost/budget.

• Hospital outpatients with chemotherapy, compromised immune systems, etc. could greatly benefit from ASID possibly developing a “take away.” Houston Medical Center Hospitals and others are wondering if there was such a thing available. They send hundreds of patients home every day with problems that make it difficult for patients to live in their homes, and they desperately need design help to make the transition.

• Identify the top three to five health outcome indicators. How do we measure and what needs to be measured? The qualitative needs to be designed for.

• Consult InformeDesign [http://www.informedesign.org/] – the best resource for EVIDENCE-BASED DESIGN content, resources, people, and tools! More translational research needed, more perspectives to build on this.
In follow-up breakout sessions, these same working groups met to discuss opportunities and strategies to overcome the challenges and obstacles identified in the previous session and formulate calls to action for the industry. The following summary captures key comments and observations from those sessions.

**TOP Five Opportunities and Strategies to Overcome Issues Identified: A Call to Action**

**Residential**
- Create platform for “stories” (well-being success stories) to be shared with consumers and others to access. Create an online venue as a repository for these stories.
- Start a blog of stories and design successes, meeting younger students and senior designers/builders/architects to design towards healthy buildings. Sound bites, Pecha Kuchas: the art of concise presentations.
- Look at stakeholder groups: homeowners/parents/caregivers; builders and subcontractors whose health can be negatively impacted by toxic products.

**Commercial**
- Build consensus among member organizations on definition of health and wellness to include MANY organizations beyond AIA and ASID (what about ASCA, APA, etc?).
- Create tools for designers to talk to clients about the business case: research clearinghouse, beginning use of wellness metrics, characteristics of “ready” clients.
- Outcomes of transparency: Platform for education, consumer decisions that result in market and manufacturing optimization.
- Establish health and wellness metrics in post-occupancy performance verification periods that yield incentive structure for health and wellness performance in buildings.

**Institutional**
- Because the occupants are varied: take a wider view to utilize Maslow’s Hierarchy of Needs with Design for All in reverse, using data - distilled and synthesized available research to develop best practices with each client, targeting key designed outcomes to define the process that becomes holistic, integrated, and health- and humancentric.
- Solutions: Define the message; activating influencers at all levels as people using the space, bottom-up; identify what health means to demographics (millennials, boomers), thought leadership: existing standards, research, conference outcomes (advance movement).
• Make aging in place and similar strategies very clear and easy to understand, and available as a marketing tool for home builders.
• Start a health council like the Green Building Council. Look at the National Healthy Housing Standard by the National Safe and Healthy Housing Coalition.

• Write and develop a standard document for interior design scope of service that identifies what health and well-being issues are included in standard scope (e.g., access to light, IAQ, etc.). Then, identify an additional scope that includes layer of health and wellness, and the benefits of addressing these issues subject to additional fees.

• Education of design professionals and institutional practitioners in health and wellness to speak each other’s language.
• Design process and inclusion of health and wellness issues, building occupations (stakeholders: flow chart, infographic):
• Design as a passive and active intervention.

Residential

Commercial

Institutional

Breakout session and group discussion
The recommendations proposed in the Call to Action developed by the summit attendees cut across the industry, requiring participation from practitioners, manufacturers, and professional organizations:

- Education of design professionals and institutional practitioners in health and wellness to speak each other’s language.
- Design process and inclusion of health and wellness issues for building occupants/design as a passive and active intervention.
- Write and develop a standard document for interior design scope of service that identifies what health and well-being issues are included in standard scope (e.g., access to light, IAQ, etc.). Then, identify an additional scope that includes a layer of health and wellness, and the benefits of addressing these issues subject to additional fees.
- Create a platform for “stories” (well-being success stories) to be shared with consumers and others to access. Create an online venue as a repository for these stories.
Appendix I. ASID | IDC Impact Summit 2015 – Agenda

Day 1: August 6, 2015 University of Florida

3 p.m. Medical City Tour (see Appendix II for information about Lake Nona Medical City)
5:30 p.m. Refreshments and Registration
5:45 p.m. Opening Remarks
6 p.m. Keynote Speaker
6:30 p.m. **Plenary 1: What is the Future of Intelligent Homes and Communities?**
In this session, expert panelists from the healthcare, design, technology, and media sectors will engage each other and attendees to:
- Evaluate the relationship between buildings, communities, and amenities in terms of physical, mental, psychological, and ecological health.
- Recognize the potential holistic health benefits of intelligent, network-enabled sensor devices in a home or commercial building.
- Interpret and integrate innovative design solutions for “connected” communities.

**Participants:**
- **Rosalyn Cama,** FASID, NCIDQ, EDAC, Board Chair, Center for Healthcare Design
- **Deborah German,** M.D., Vice President for Medical Affairs and Dean, College of Medicine, University of Central Florida
- **Susan Szenasy,** Publisher and Editor in Chief, *Metropolis* magazine
- **Sandra Vance,** MHA, Senior Director, Interoperability Initiatives, HIMSS

7:30 p.m. Networking Reception
As part of the Impact Summit experience, attendees are invited to a networking reception to enjoy food and libations. ASID and IDC staff will be available to help facilitate introductions and follow up on conversations initiated during the meeting.

8:45 p.m. Closing Remarks
Day 2: August 7, 2015 University of Florida

7:30 a.m. Networking Breakfast at Ritz
8 a.m. Opening Remarks
9 a.m. **Plenary 2: Health, Safety, and Welfare versus Health and Wellness.**
In this session, expert panelists across government, industry, design, technology, and standards will engage each other and attendees to:
- Consider the challenges and opportunities in current Health Safety and Welfare codes toward supporting human health and wellness in the built environment.
- Explore pathways for technology and design to increase employee participation in safety initiatives, while further integrating wellness initiatives.
- Compare how higher education, credentialing, and licensing requirements will be impacted by the emerging changes to design practice due to heightened focus on health and wellness.

**Participants:**
- Lisa Barnard, Commercial Key Account Manager, Center for Building Excellence, BASF
- Mara Baum, Healthcare Sustainable Design Leader, HOK
- David Eisenberg, Executive Director, Development Center for Appropriate Technology
- Bryan C. Steverson, GGP, Office of Federal High-Performance Green Buildings, U.S. General Services Administration
- Sara Yerkes, Senior Vice President, Government Relations, International Code Council

10 a.m. Break
10:20 a.m. Small Group Discussions
11:30 a.m. Networking Lunch
1 p.m. Breakout Sessions
4 p.m. Break
Day 2: August 7, 2015 University of Florida

4:30 p.m.  **Plenary 3: Integration of the Disciplines: Is Integrative Design the Key to Health and Wellness Success?**

Integrated design is a holistic method that emphasizes management empathy to promote innovation by exploiting different skills to enhance the synergies of the final deliverable, interior, or building. An integrated design process includes the active and continuing participation of users and community members, code officials, building technologists, contractors, cost consultants, civil engineers, mechanical and electrical engineers, structural engineers, specifications specialists, and consultants from many specialized fields.

In this session, expert panelists across research, academia, education, and design will engage each other and attendees to:

- Determine approaches for health and wellness in design to augment project return on investment.
- Discuss common barriers that prevent effective integration among practitioners, specialists, clients, and occupants.

**Participants:**
- **Anthony Guerrero,** Director, Facilities and Operations, Natural Resources Defense Council (NRDC)
- **Angela Bourne,** Ph.D., M.Sc., M.Ed, Fanshawe College, Canada
- **Lisa Fulford-Roy,** Senior Vice President, Marketing Principal, HOK
- **Nadav Malin,** President, BuildingGreen
- **AJ Paron-Wildes,** National Architectural and Design Manager (Interiors), Allsteel

6 p.m.  **Program Closing Remarks and Next Steps**

6:30 p.m.  **End of Program**
Appendix II. Speaker Bios

Lisa Barnard  
CSI, LEED, AP O+M, Commercial Key Account Manager  
BASF Center for Building Excellence  
Lisa Barnard is a commercial key account manager with BASF’s Center for Building Excellence. Her outreach, advocacy, and consultative initiatives help enhance the company’s profile as a leader in sustainable construction. She also manages new business development and marketing activities for a sizeable project portfolio. Barnard’s key strengths are leading top-performing project teams; developing programs and supporting construction practices that accelerate sustainability efforts; and innovation in connecting key players to save resources, time, and costs. Working in areas related to material selection, LCA, EPD, corporate sustainability reporting, UN Millennium Development Goals, and building standards/certification programs, she collaborates with a myriad of stakeholders, from architects and engineers, to chemists and NGOs. As an advocate for sustainable development, Barnard is heavily involved with USGBC on both a local and national level, sits on the Special Programs Working Group for Greenbuild, is a former board member for the ASID Arizona Chapter, and is a regular presenter on a myriad of sustainability related topics.

Mara Baum  
AIA, LEED AP Fellow, EDAC, Healthcare Sustainable Design Leader  
HOK  
Mara Baum is HOK’s firm-wide healthcare sustainable design leader, oversees sustainability across the healthcare market sector, and leads HOK’s health and wellness initiatives. Baum has more than 15 years of sustainability experience in design, urban planning, research, teaching, and green building certification, and her work focuses on the intersection between ecological considerations and the creation of a healthy and healing environment. Baum is on the LEED Advisory Committee and was co-author of the Advanced Energy Design Guide for Large Hospitals: 50% Savings. She is an online faculty member for Boston Architectural College’s Sustainable Design Institute where she teaches “Green Building and Health” and “Sustainable Design of Healthcare Facilities.”

Angela Bourne  
PhD., M.Sc., M. Ed, IDC, ASID, IDEC, EDRA, President  
Neuro-Considerate Environments  
Angela Bourne is a designer, educator, and researcher who is passionate about creating innovative people centered environments. Bourne's lifelong interest in learning about how people interact with their environment has enabled her to develop effective design solutions that help people be the best they can be. Throughout her career, she has cultivated an expertise in the design of space for people with cognitive diversities. Bourne’s experience and education have culminated in a book entitled Designing for Autism and other Cognitive Challenges.
Rosalyn Cama
FASID, NCIDQ, EDAC, Board Chair
Center for Health Design
Roz Cama is president and principal designer for CAMA Incorporated whose mission is to partner with healthcare providers and their architectural consultants to create interior environments that improve outcomes, and with the interior design industry to develop expanded product offerings for interior environments that enrich the human experience. CAMA has completed design work for clients in the area of healthcare and academic settings for higher education, including Memorial Sloan Kettering Cancer Center, Yale-New Haven Health System, Brigham and Women’s Hospital, OhioHealth, Herman Miller, Inc., and IoA Healthcare Furniture. Ms. Cama has served as president of ASID and currently serves as chair of the board for the Center for Health Design.

Alexander Chan
Associate Director
National Strategy at Clinton Foundation
Alex Chan is the associate director of national strategy for the Clinton Health Matters Initiative (CHMI) and oversees a national portfolio of programs focused on chronic disease prevention and treatment. Chan manages initiatives that address critical needs or gaps in services across a broad array of domestic health issues, such as increasing the capacity of mental health and substance abuse services on college campuses, expanding access to life-saving opioid reversal agents through negotiated agreements with pharmaceutical manufacturers, and more. Prior to joining the Foundation, Chan worked in both the public and private sectors on projects designed to improve public health outcomes through interventions and changes to the built environment.

David Eisenberg
Co-founder
Development Center for Appropriate Technology (DCAT)
David Eisenberg co-founded and has led the Development Center for Appropriate Technology (DCAT) since 1992. DCAT launched their program, Building Sustainability into the Codes, in 1995 to create a sustainable context for building codes. David’s wide-ranging building experience — from troubleshooting construction of the high-tech cover of Biosphere2, to conventional concrete, steel, masonry, wood, adobe, rammed earth, and straw bale — has grounded DCAT’s work in both building codes and standards. David served two terms on the U.S. Green Building Council Board of Directors, founded and chaired the USGBC Code Committee for ten years, served on the International Code Council (ICC) committee that created the first draft of the International Green Construction Code (IGCC), and served as vice chair of an ASTM subcommittee that developed the ASTM Standard Guide for Design of Earthen Wall Building Systems.
**Lisa Fulford-Roy**  
Senior Vice President, Marketing Principal  
HOK  
As a senior workplace design consulting specialist and marketing principal for HOK, Lisa Fulford-Roy collaborates with HOK clients to design innovative, business-aligned workplace and portfolio solutions. Leveraging HOK’s multi-disciplinary practice and global thought leaders, Fulford-Roy partners with clients to solve their increasingly complex challenges, explores opportunities for change, and collaborates to define viable strategies with the future vision of their enterprise in mind. With over 20 years of experience in workplace strategy and design for major corporations, Lisa’s leading-edge thinking and integrative approach results in holistic client solutions with long-term benefits to the business, the brand, and the employee experience.

**Deborah C. German**  
M.D., Vice President for Medical Affairs and Dean, College of Medicine  
University of Central Florida  
Dr. Deborah German, a physician, educator, and administrator, is vice president for Medical Affairs at the University of Central Florida and the founding dean of UCF’s College of Medicine. After receiving her M.D. from Harvard Medical School, German was resident in medicine at Rochester, fellow and faculty member at Duke University, associate dean for students and senior associate dean of Medical Education at Vanderbilt, president and CEO of Saint Thomas Hospital, and AAMC Petersdorf Scholar-in-Residence. As vice president and founding dean at UCF, she is working with a team of over 2,300 full-time, part-time, and volunteer faculty and staff members to develop a premier 21st century research-based medical school and a patient-centered clinical enterprise.

**Anthony M. Guerrero**  
Director, Facilities and Operations  
Natural Resources Defense Council (NRDC)  
Anthony Guerrero leads the development of sustainability strategies for the core operations of the Natural Resources Defense Council (NRDC) focusing on the triple bottom line: social equity, sustaining the environment, and financial viability. Guerrero puts into practice the principles of the Living Building Challenge to revamp the internal operations of NRDC and to demonstrate transformation in Operations Management. Under his leadership, NRDC completed the world’s first tenant improvement LBC Petal Certification in its Chicago office, has submitted its Beijing office for Petal Certification, and is pursuing certification for its latest office build-outs in Chicago (expansion space) and San Francisco.
Nadav Malin
President
BuildingGreen, Inc.

Nadav Malin is president and CEO of BuildingGreen, Inc. and oversees the company’s industry-leading information and community-building websites BuildingGreen.com and LEEDuser.com, and formerly served as executive editor of GreenSource magazine. Malin led the LEED Rating system’s Materials and Resources Technical Advisory Group, and served as chair throughout LEED’s formative years. He also led the team that created the U.S. Department of Energy’s High Performance Buildings Database, and continues to oversee BuildingGreen’s responsibility for ensuring the quality of case studies and for collecting meaningful data on actual building performance.

A.J. Paron-Wildes
Allied ASID, Associate IIDA, Associate AIA, LEED AP ID+C
National Architectural and Design Manager
Allsteel

A.J. Paron-Wildes is national architectural and design manager for Allsteel and has created and led an award-winning design/build firm, has developed national programs for ASID, has developed and funded design research programs for the University of Minnesota, and has pioneered various charitable programs. Paron-Wildes helps corporate clients look to the future when designing their spaces and facilities and specializes in design implementation and collaboration, environmental initiatives/LEED, and change management. She has been a design consultant for interiors in healthcare and education, with a specific focus on autism. In 2013, Paron-Wildes completed a trilogy e-book series on Designing for Autism that was published by John Wiley & Sons.

Susan Szenasy
Publisher and Editor in Chief
Metropolis Magazine

In 1986, Susan S. Szenasy was named chief editor of Metropolis, the New York based magazine of architecture, culture, and design. During her 17 years as editor-in-chief, the magazine has gained international recognition and has won numerous awards. Beginning with Interiors magazine, she rose from a junior position as editorial assistant to senior editor and was then named chief editor of Residential Interiors, the short-lived offspring of Interiors. Szenasy is the author of several books on design, including The Home and Light, and teaches design history and design ethics at New York’s Parsons School of Design.
Bryan Steverson
Green Buildings Program Advisor
GSA Office of Federal High-Performance Green Buildings

Bryan Steverson is a sustainability and green buildings program advisor in GSA’s Office of Federal High-Performance Green Buildings and has over 13 years of experience with federal sustainability and green building initiatives. Steverson is the project manager for the research GSA is collaborating on with the Lighting Research Center from Rensselaer Polytechnic Institute to study the links between daylight exposure and human health benefits in federal office workers. He has also conducted research with the University of Minnesota and University of Washington on collaborative construction practices, and currently serves as a policy advisor for GSA’s green building certification system review. Steverson joined GSA in 2002 as an environmental protection specialist and also worked in GSA’s legislative and congressional affairs office for five years.

Sandra Vance
MHA, Senior Director, Interoperability Initiatives
HIMSS

Sandra Vance is senior director, Interoperability Initiatives, at HIMSS, a global, cause-based, not-for-profit organization focused on better health through information technology. As part of the Informatics division of HIMSS, Vance and her team engage health IT companies in developing and demonstrating standards-based and government-led interoperability solutions at HIMSS events in North America, Europe, the Middle East, and Latin America. Vance serves as both program director and technical liaison to health IT companies all over the world, and led the team that planned, built, and now operates the HIMSS Innovation Center in Cleveland, Ohio. The center convenes stakeholders in collaborative technical demonstrations featuring optimization in areas such as interoperability, privacy and security, and analytics.

Sara Yerkes
Senior Vice President
Government Relations, International Code Council

Sara Yerkes serves the International Code Council (ICC) as senior vice president of government relations and manages the public policy and government relations functions of the organization. Yerkes develops and implements a pro-active program of effective lobbying and persuasive advocacy; represents and speaks for ICC on policy matters and program activities; coordinates strategies to implement policies at the federal, state, and local levels; supervises the accomplishment of the developed action plans; works closely with members of Congress and their staff to draft and endorse legislation that will support and benefit the ICC’s mission and other related goals; and seeks opportunities to showcase ICC and to expand ICC’s circle of influence. Yerkes oversees the state and local activities that have successfully led to the adoption and use of the International Codes in all 50 states.
Appendix III. About Lake Nona Medical City

The 650-acre health and life sciences park known as Lake Nona Medical City is a landmark for Orlando and a premier location for medical care, research, and education. Carefully planned and laid out, Lake Nona Medical City represents a deliberate strategy to create a centralized focus of sophisticated medical treatment, research, and education in Central Florida.

Based on the proven theory that a cluster of healthcare and bioscience facilities in proximity to one another will accelerate innovation, this intellectual hub opened in a coordinated fashion with a collaborative mission. In just the last seven years, Lake Nona Medical City has become home to some of the nation’s top hospitals, universities, research institutions, and health and life science companies, including the University of Central Florida Health Sciences Campus, University of Florida Academic & Research Center, VA Medical Center, Nemour’s Children’s Hospital, and Lake Nona Gateway, home of Florida Hospital Health Park and UCF Health.

For more information on Lake Nona Medical City visit LakeNona.com
Design Transforms Lives.