

# FROM RESEARCH TO APPLICATION

Building the bridge to practice

Design & Health Research Consortium  
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# The impact of our choices...

**“The healthiness of places where people live and work is influenced by the way they’re designed and the people who design them. Therefore, architects have a huge impact on health and wellness.”**

—Ted Eytan, MD, MS, MPH  
*Kaiser Permanente  
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The choices we make in the built environment have cascading ramifications, affecting the sustainability, health, social cohesion, and economic vitality of entire communities. The factors that play a role in public health are many and complex, requiring innovative approaches and strong multi-sector partnerships.

Architects are catalysts, bringing together developers, owners, government agencies, and communities to design health-promoting environments. The conversation is expanding to encompass a broader array of stakeholders dedicated to research and programs supporting the convergence of design and health in communities.

Architects Foundation, the Association of Collegiate Schools of Architecture (ACSA), and the American Institute of Architects (AIA), convened the Design & Health Research Consortium on April 12 and 13 in Alexandria, Virginia, to continue the discourse begun during the 2015 inaugural session. This convening focused on three interwoven concepts essential to expanding the knowledge base and catalyzing industry adoption of health research in design:

1. Making your research relevant
2. Crafting a good proposal
3. Building value in your community

Participants considered “what’s next” in research, how to build capacity within the Consortium, and incubate new ways for researchers and practitioners to work together. Over the course of two days, Consortium members, presenters, and guests drew from their experiences, case studies, and research to suggest best practices and key takeaways supporting the three concepts.

## **MAKING YOUR RESEARCH RELEVANT**

Researchers must be able to communicate the stories behind their work effectively to generate broader interest, influence policy, and gain industry support for their work. Good media coverage is instrumental in how a movement or project is perceived, whether it is deemed relevant, and whether it garners the necessary support and funding to go from research to reality.

## **CRAFTING A GOOD PROPOSAL**

The strength of a proposal depends on the relevance of the research, and benefits from compelling storytelling. A good proposal is about more than structure and mechanics (although those elements are important); it's also about taking a multi-disciplinary approach to problem solving and to engaging funders. Ultimately, a grant process is only the beginning of what should be a long-term dialogue and relationship between teams and funders.

## **BUILDING VALUE IN YOUR COMMUNITY**

Communities benefit from diverse partnerships that incorporate the perspectives of all stakeholders. Successful development teams, therefore, look to foundations, local government, and non-profit partners to provide the capacity, infrastructure, and expertise from multiple disciplines to implement programs that enrich and answer the needs of target communities.



# Building a shared vision



## About the Design & Health Research Consortium

Architects Foundation, AIA, and ACSA established the Design & Health Research Consortium to expand the knowledge base connecting design and health disciplines, develop evidence-based practice tools, and propel public and policy demand for health-promoting places. The Association of Schools and Programs of Public Health (ASPPH) provides additional support and guidance to the program.

The 17 current multi-disciplinary member teams were invited to join the consortium by a jury of peers who annually review interested teams' qualifications. The teams represent a mix of research scope and scale, professional disciplines, geographic regions, university sizes, and readiness to conduct and translate research. The current members are:

- Columbia University
- Drexel University
- Morgan State University
- NewSchool of Architecture & Design, and University of California, San Diego
- Texas A&M University
- Texas Tech University
- University of Arizona
- University of Florida
- University of Illinois at Urbana-Champaign
- University of Kansas
- University of Miami
- University of Memphis
- University of Minnesota
- University of Oregon
- University of Virginia
- University of Washington
- Washington University in St. Louis

Research demonstrating the benefits of design on health, well-being, and social and economic equity is still in its nascent stages. Numerous barriers to public awareness and to targeted funding remain, necessitating more exploration of these issues. Consortium teams convene annually to explore those issues and share best practices for advancing this movement. This document reflects the proceedings and discussions of the 2016 convening of the Design & Health Research Consortium.

## Event agenda

Whereas the 2015 convening emphasized knowledge sharing and relationship building, the 2016 convening stressed emerging opportunities

and necessary skills to bridge research and practice. Through a series of dialogues, poster sessions, practice-based panel discussions—and a generous amount of one-on-one networking—the agenda addressed collaboration, storytelling, and partnering strategies as foundations for fostering healthy, equitable communities.

### **OPENING REMARKS**

Tom Fisher, Assoc. AIA, and Suzanna Kelley, FAIA, LEED AP BD+C, set the stage for two days of presentations and discussions, outlining the objectives of the 2016 Design & Health Research Consortium convening.

### **STORIES THAT WORK: HOW TO ENGAGE WITH THE GENERAL PUBLIC**

This panel examined how to translate research and data to compelling human stories that appeal to the media and the general public.

*Moderated by Tom Fisher, Assoc. AIA, University of Minnesota  
Scott Ward, Fifth Estate Communications  
Ned Cramer, Assoc. AIA, Architect Magazine  
Catherine Arnst, Robert Wood Johnson Foundation*

### **ANATOMY OF A GOOD PROPOSAL**

This panel explored 10 key strategies for effective proposal writing. Panelists and attendees shared their experiences and lessons learned.

*Moderated by Andrew Ibrahim, MD, University of Michigan  
Anne Lebleu, Arabella Advisors  
Bethany Rogerson, Health Impact Project  
Kim Tanzer, FAIA, University of Virginia*

### **BUILDING VALUE IN YOUR COMMUNITY**

Panelists, representing a foundation, local government, and community development, discussed strategies for building sustainable relationships for healthy and equitable communities.

*Moderated by Shannon Criss, RA, University of Kansas  
Sarah Norman, NeighborWorks America  
Eric Shaw, Washington DC Office of Planning  
James Crowder, Philadelphia LISC*

### **THE CHANGING LANDSCAPE OF HEALTH PHILANTHROPY, PRESENTED BY GRANTMAKERS IN HEALTH**

This session started with a panel discussion and concluded with group break-out sessions, all focused on the intersections of health, design, and community development in philanthropy.

*Moderated by Kristina Gray-Akpa, Grantmakers in Health  
Stephany De Scisciolo, PhD, Enterprise Community Partners, Inc.  
Billie Hall, Sunflower Foundation  
Rebecca Morley, The Pew Charitable Trusts*

### **THE IMPACT OF GREEN BUILDINGS ON COGNITIVE FUNCTION**

Joseph G. Allen, DSc, MPH, Assistant Professor, Harvard T.H. Chan School of Public Health, pointed to two major studies to demonstrate how indoor environmental quality affects cognitive function.

### **ACSA AND IWBI PRESENTATION**

This session outlined the goals of ACSA and extended a call for papers. The discussion also focused on IWBI initiatives related to The WELL Building Standard and announced the WELL Scholar Program.

*Michael Monti, PhD, Hon. AIA, Association for Collegiate Schools of Architecture (ACSA)  
Whitney Austin Gray, PhD, LEED AP, International WELL Building Institute (IWBI)*

### **POSTER SESSION, PRESENTED BY ACSA**

Eight schools shared research initiatives that emerged from community partnerships. Discussion encompassed overlapping research areas as opportunities for funding or publication.

*Led by Michael Monti, PhD, Hon. AIA, ACSA*

### **CLOSING REMARKS**

Tom Fisher, Assoc. AIA, invited evaluations of the 2016 convening and opened the discussion for strategies to better engage practitioners in collaboration and provide more mentorship opportunities.

# Bridging the gap between research & practice

**“Relevant information told in a compelling fashion at the appropriate time to the right audience... These are the keys for shaping research into stories that lead to change or into grant proposals that result in funding and implementation.”**

—Scott Ward

*Fifth Estate Communications*

The “town-gown” schism—where bright lines sometimes stand between the research conducted on campus and sharing that research across the community—is a long-standing issue. It is critical that teams overcome that divide as they seek new partners and advocates for the design and health movement. To succeed, research teams may need to recalibrate how—and with whom—they work to better tell the story, make the case, and demonstrate value in their community. Learning from each other and from expert speakers, Consortium members discussed the following strategies:

## **Making your research relevant**

“We need to convey the importance of our work to the public,” said **Scott Ward, a communications strategist and principal at Fifth Estate Communications.** “Relevant information told in a compelling fashion at the appropriate time to the right audience... These are the keys for shaping research into stories that lead to change or into grant proposals that result in funding and implementation.”

## **GIVE DATA A VOICE**

Raw data by itself is not compelling. We must translate our data to stories that answer the crucial “so what” questions such as why the research is important and how it will impact a community or shape policy.

We can begin to find the story even when working with data. Visualization, through charts, maps, and illustrations, further supports our storytelling and gives our numbers a voice. Simple graphics can help audiences to quickly grasp decades of information, establish the scale of a problem, or identify relationships between data.

But the most important relationship is between the research and the audience. People relate to stories about other people. As “public intellectuals,” we must rely on facts, while putting them in human terms to communicate the value of our research [page 10]. Is the topic—climate change, equity, urban infrastructure—too socially provocative? Relate it to an individual or group of people. Use anecdotal stories to illustrate relevance and show whom the issues affect and how—in business, in education, in healthcare.

## **NAIL THE PITCH**

Timing is everything when we pitch a story. We may get more traction when we can align our research with a trend or relevant news event. New



media—including social and online publications—makes it easy to match research with interested audiences. But remember: even the best-timed stories need an engaging hook that tells the “so-what” upfront and entices editors to want to know more [page 11].

### **LEVERAGE PARTNERSHIPS**

Strategic partnerships are fundamental to making research relevant. Rather than tackle an initiative alone, we can embrace partners who share our goals, enhance our strengths, and who can help us disseminate our work more broadly.

Partnering begins in communities. As part of the research process, community residents can help us gather relevant data, create a compelling case, and identify additional stakeholders and advocates. For example, using a health equity lens to help clarify our value proposition, we must better engage developers and funders in the conversation around health and housing and expand our partnership opportunities.

Partnering also opens doors to new audiences. We need strong, diverse partners—including businesses, foundations, and cities—to champion our research outside of academia [page 11]. Within the university, we must strive to develop a better culture of cross-citations.

### **FIND UNTAPPED OPPORTUNITIES**

As with the Harvard Sensors for Health (HSH) group’s green building studies cited by Joseph Allen [page 13], research can shape public perception and industry practices. We must identify opportunities that have broad implications across sectors including businesses, tenants, building owners, and the healthcare industry.

To be effective, we should adopt language and highlight metrics that are meaningful to target sectors. When we talk about green buildings to the business community, for example, we can get buy-in by using productivity metrics that focus on issues such as



Table discussion during the Grantmakers in Health session on the changing landscape of philanthropy.

employee retention and absenteeism—all factors relevant to a business organization’s bottom line.

### **Crafting a good proposal**

The funding landscape is shifting toward more cross-sector pollination and innovation. Funders are now seeking more collaborative research, outcomes, tools, and best practices in proposals. Furthermore, funders are catalysts for change. Following are key observations in seeking grants and building strong partnerships:

### **SEEK INNOVATIVE APPROACHES**

Innovation can make or break a proposal. Grant applicants often express innovation in terms of technology used. However, sometimes the greater innovation is in the partners we bring to a team. Funders are increasingly alert to successful multi-disciplinary research, and value proven partnerships.

To innovate, we must first understand the lay of the land. Problems arise when applicants fail to connect the dots and tap into existing research. Partnering with practitioners—especially from smaller firms—early in the grant-making process demonstrates a commitment to identifying those connections. Following that, we need to demonstrate success working with partners through progressively larger projects.

In addition, our definition of “health” can get in the way of funding. We need to engage traditional health funders in thinking about how design matters in the built environment with regard to fostering health-promoting places. By framing the issues in terms of whole populations, rather than specific diseases, we can make a compelling case to demonstrate the links between the built environment and wellness.

### **COLLABORATE WITH FOUNDATIONS**

Although the majority of traditional health funders have not yet invested in built-environment health and equity interventions, those who have are change-makers in their community. For example, the Sunflower Foundation partnered with Rails-to-Trails and Kansas Wildlife & Parks to repurpose abandoned railroad tracks. As a result, communities throughout Kansas now have access to outdoor amenities and an array of social and economic opportunities [page 13].

Philanthropy also has a critical role in fostering collaboration. Funders—especially local organizations—are well-positioned to connect grantees with community stakeholders. At the local level, traditional health funders can help us more deeply engage healthcare providers in discussions of upstream investments for healthier communities. As a national funder, Enterprise Community Partners collaborates with philanthropic organizations to augment their work and educate community development corporations (CDCs) [page 13].

### **Building value in your community**

Building value in a community entails “partnerships that reflect the diversity of project teams and incorporate others’ perspectives for successful outcomes,” according to **Shannon Criss**. Value comes from complementary organizations pursuing a common goal and deploying resources strategically for the benefit of a target community.

### **ASK THE COMMUNITY ABOUT ITS NEEDS**

Sustainable success results from partnering with local communities and acting on that feedback. When conducting research or designing interventions, we should engage people as participants in the process, not just as reviewers or subjects. We need to ask residents what they would like to experience in their community.

When assessing community needs, we should consider all areas that make up a thriving community including education, housing, employment readiness and access, economic development, social equity and community engagement, health services, and physical activity. HIAs and other tools help us gather and share data with communities and influence public policy.

### **ALIGN MISSIONS**

Competing foundation, government, and university priorities can sometimes steer an overabundance of resources to certain communities while leaving others vulnerable. We must align those priorities with partner strengths and quality research to build value in communities.

Local planning and health departments often have comprehensive plans built on engagement, data analysis, and population specific policy solutions. These legacy documents are strong foundations from which we can build our work.

Universities—often anchor institutions—bring a range of assets to community partnership, including research. For example, the Home Preservation Initiative (HPI) turned to Drexel University to support development efforts in struggling West Philadelphia communities because of the university’s considerable access to and impact in those communities [page 12].

### **ACT TOGETHER**

When piloting an idea, we should seek authentic relationships with people on the ground and maintain ongoing communications among all stakeholders, including community residents.

In Pagedale, Missouri, for example, Beyond Housing heard the community’s concerns regarding lack of access to fresh, healthy food. The organization made its first foray into commercial development and worked with residents to attract a Save-A-Lot. The supermarket became a community catalyst for additional health and equity based development [page 13].



From left: Dee Nicholas, AIA, Wendy Cohn, PhD, and Jenny Roe, PhD share experiences during the ACSA poster session.

# Real world strategies, tactics, tips & tools

**Tom Fisher, Assoc. AIA, University of Minnesota**, kicked off the convening, acknowledging advances made by the Design & Health Research Consortium. He expressed excitement over the opportunity to expand the conversation and build a supportive community for researchers committed to this work.

Fisher explained that the convening agenda is about how—and with whom—we do our work now and in the future. Health issues including disease, obesity, and America’s clean-water crisis are a matter of social and physical infrastructure. Finding solutions to these complex challenges requires that we work across disciplinary boundaries. Furthermore, there’s a role as public intellectuals that we can play in affecting public opinion. We can facilitate provocative conversations in our communities, and support national dialogues through our research.

## Stories that work: how to engage with the general public

It is said that “data speaks for itself,” yet there is often a disconnect in how we convey information to the public. Those of us who work with data must be able to communicate our findings clearly to build public awareness and industry adoption. This panel, composed of three media experts, outlined strategies for crafting a compelling message from complex information and communicating to a broad audience.



The second morning panel explored the anatomy of a good proposal.

**Ned Cramer, Assoc. AIA, Editor-in-Chief at Architect Magazine**, confirmed that the way in which we communicate information to our peers and colleagues does not always translate well to a broader audience. As media continually evolves, there is greater diversity of forums—and opportunities—for reaching audiences beyond academic print publications. We must strive for simple language and clear messaging. And we need to understand our target audience and a media outlet’s personality so we can better pitch our message.

**Cathy Arnst, Director of Media Relations, Robert Wood Johnson Foundation (RWJF)**, stressed that, “You need good writing to get your message out.” She pointed to RWJF strategies for extending a message to make a difference. “We can’t just keep talking only to folks in the health sector; we need to reach out to others. We need to tell them stories.”

**Scott Ward, Principal at Fifth Estate**, explained that a good PR person is tasked with communicating complexity, otherwise known as, “How we smarten it up without dumbing it down.” Often, researchers and practitioners believe the *message* should always be first. Ward argued that the goal of reaching a target audience comes before the message.

### Anatomy of a good proposal

Millions of dollars for worthwhile—even critical—research is never awarded in grants or appropriated. Too often, poor proposals undermine good ideas. For academics, researchers, and practitioners, tapping into new funding sources—including private sector support and Federal investment in upstream health—requires strong, targeted proposals. **Andrew Ibrahim, MD, University of Michigan**, outlined gaps and opportunities in pursuing grants and **Anne Lebleu, Arabella Advisors, Bethany Rogers, Health Impact Project**, and **Kim Tanzer, FAIA, University of Virginia**, shared their top strategies for creating strong proposals to secure funding.

The panelists emphasized the need both to follow RFP guidelines and to use them as a tool to refine applicant goals and implementation strategy. Writing a good proposal requires a compelling narrative and innovative approach. Ultimately, a proposal should demonstrate that it is directed toward providing solutions for real needs within a target community.

### Building value in your community

Increasingly, universities and architects are joining with communities to create health-promoting and enriching environments. Panelists highlighted their organizations’ successes in partnering across sectors to share resources and achieve common goals.

**Sarah Norman, NeighborWorks America**, outlined how NeighborWorks partners with diverse member organizations including government agencies, foundations, financial and healthcare institutions, insurance companies, and universities and colleges. These partnerships support their communities by providing resources including training and technical assistance, research, and investment. One such partnership—between NeighborWorks member Coalition for a Better Acre of Lowell, Massachusetts, and the University of Massachusetts—led to an 81 percent decrease in emergency-room visits for families in Lowell.

In the Normandy School District of Pagedale, Missouri, NeighborWorks member Beyond Housing works with local leadership, lenders, healthcare systems, and other community stakeholders through the “[Vision 24:1](#)” (24 municipalities with one vision) community-building initiative to address challenges throughout the Normandy School District. These partnerships have resulted in access to a supermarket, affordable housing for seniors, and numerous other projects that support health- and equity-based development.

**Eric Shaw, Director of the DC Office of Planning (OP)**, explained that DC planning goals for healthy and sustainable communities are hyper local,



From left, Scott Ward, Ned Cramer, Assoc. AIA, and Cathy Arnst share effective storytelling techniques during “Stories that Work,” moderated by Tom Fisher, Assoc. AIA (right).

equity driven, and context specific. “We’re really interested in the outliers, the canaries in the coal mine...” Shaw emphasized that pilot programs are grounded in relationships with the private sector and on deep institutional knowledge.

Spatial equity is also a driving force in DC. Buildings and public spaces that promote healthy choices and activities must also appeal to a variety of users and their needs. This community-driven focus is reflected in recent projects, including [Buzzard Point](#), [Downtown East](#), and [Van Ness Commercial District](#). Ultimately, DC OP seeks to create common ground and vital connections among diverse groups.

**James Crowder, Philadelphia LISC**, talked about LISC’s Sustainable Communities Initiative, which convened community partners for a resident-led neighborhood transformation known as “the Collaborative” (comprised of community development organizations, Consortium member Drexel University, public agencies, civic associations, and LISC) to address the challenges facing the neighborhoods of West Philadelphia.

These neighborhoods have undergone demographic shifts from university growth, significant population loss, and low homeownership rates—all of which resulted in blight, disinvestment, deteriorating housing, and weakened commercial corridors. To protect residents from displacement and ensure they benefit from development and resource access, the Collaborative is pursuing two community-driven neighborhood plans focused on engaging residents: [The Mantua Transformation Plan](#) (Mt. Vernon Manor, Inc.) and [Make Your Mark](#) (People’s Emergency Center).

### **The changing landscape of health philanthropy, presented by Grantmakers in Health**

The growing awareness of the relationship between public health and the built environment is leading to novel funding opportunities and strategies. A panel of Grantmakers in Health (GIH) Funding Partners shared their innovative health- and design-based initiatives. Formally launched in 1982, GIH is the professional home of health grantmakers.

**Billie Hall, Sunflower Foundation**, outlined the Foundation’s strategy for connecting health and the

built environment through its Healthy Living and Active Communities program. The Foundation and community partners started developing a statewide network of trails to improve healthy eating and physical activity in Kansas.

Since [Sunflower Trails](#) launched in 2005, the Foundation has partnered with communities and schools in more than 55 Kansas counties, transforming trails to outdoor social connectors and economic drivers. The Foundation is now moving to the next phase: a food hackathon to tackle food deserts in rural Kansas.

**Rebecca Morley, The Pew Charitable Trusts,** provided an overview of the Health Impact Project, a collaboration of The Pew Charitable Trust and Robert Wood Johnson Foundation to encourage the use of health impact assessments (HIAs) as a decision-making tool. She presented the [Health Impact Assessment and Housing](#) brief, which documents how unfair and unhealthy conditions can result from the built environment. To highlight the use of HIAs in influencing public policy, Morley pointed to a San Diego high school group that presented HIA-based research to persuade their resistant neighborhood to build a skate park and outdoor space.

**Stephany De Scisciolo, PhD,** Enterprise Community Partners, explained how Enterprise gives people access to opportunities beyond housing through more comprehensive, sustainable development. The [Enterprise Green Communities Initiative](#) encompasses programs that help developers, investors, builders and policymakers transition to green affordable housing.

To further promote the connection between health and housing, Enterprise launched the [2015 Enterprise Green Communities Criteria](#). The criteria require housing developers to create environments that are responsive to community health needs and that foster opportunities for active living through transit-oriented development and designs that promote physical movement.

### **The impact of green buildings on cognitive function**

**Joseph G. Allen, DSc, MPH, Harvard T.H. Chan School of Public Health,** shared his research on exposures to and health risks from indoor environmental stressors. His team, the Harvard Sensors for Health (HSH) research group, focuses on indoor air quality

because people spend 90 percent of their time indoors where the concentrations of many pollutants are higher than outdoors, significantly impacting occupants' health.

As a building science and forensics consultant, Allen has investigated an array of problems in buildings and has found that "we're always *reacting* to these issues."

Since the 1970s, the air exchange rate in U.S. buildings has decreased significantly. Tighter building envelopes resulted from the minimum standard outlined in ASHRAE standards 62.1 and 62.2. These minimal ventilation rates led to sick-building syndrome, including headaches and absenteeism, first documented in the 1980s.

Although we expect green buildings to be healthier buildings, older studies fail to document this expectation conclusively. Still missing is in-depth analysis of the ways in which green buildings support health. The limitations of existing green building studies include occupant bias, small sample sizes, and poor data gathering. HSH sought to close this gap with its study.

The team developed health performance indicators (HPIs) as a framework for studying the effects of indoor environments on overall health and productivity in green buildings. A key leading indicator is the impact of green buildings on the cognitive function of office workers. The [Cognitive Function Study](#) simulated different indoor environment conditions over a period of two weeks, taking into account three variables: ventilation, carbon dioxide (CO<sub>2</sub>) and chemicals/VOCs. People in the optimized green environment demonstrated doubly improved performance, including in cognitive function.

The study ultimately revealed that green buildings perform markedly better with regard to cognitive function compared to conventional buildings. Also, CO<sub>2</sub> and VOCs cause significant independent cognitive deficits at levels found in conventional buildings, but those effects can be mitigated by increasing the supply of outdoor air in green buildings.

A separate study conducted in seven U.S. cities, selected to represent different climate zones, sought to quantify the impact of green buildings on cognitive function. This study looked at four different HVAC system strategies and showed that doubling the ventilation for improved productivity costs between \$14 to \$40 per person per year in all the investigated climate zones.

When energy efficient technologies are deployed, the cost is between \$1 to \$18 per person per year in all investigated climate zones.

The cost to health and productivity is too high to continue to ignore. Just 10 percent of a building's operating costs are attributed to energy, maintenance, and mortgage. The other 90 percent of a building's cost is attributed to its occupants in the form of salary and benefits. Indoor air quality matters to health and green buildings outperform conventional construction.

### Poster presentations, presented by ACSA

Poster presentations provided a starting point for discussions about forming partnerships to do more research. A driving goal for research teams is to publish in relevant journals and media outlets, influence policy, and gain traction for community-based programs that bridge the practices of public health and architecture. According to ACSA Executive Director, **Michael Monti, PhD, Hon. AIA**, bridging the gap between academic and practice-focused research is an important role for the Consortium.

#### UNIVERSITY OF MEMPHIS

**Memphis Walks: Walkability Makes Healthy Communities** is a multi-disciplinary, community-based study of physical health and walkability issues in Memphis urban communities. The team aims to engage community residents from the very outset and address their concerns. They developed a community survey to gauge perceptions of crime, safety, neighborhood blight, walkability, traffic congestion, social engagement, and health status.

#### TEXAS A&M UNIVERSITY

**Active Living Austin: Physical Activity Impacts of an Activity-Friendly Community** is a longitudinal, case-comparison study designed to understand both short-term and long-term changes in physical activity after residents move from communities that are not activity friendly to an activity-friendly community (AFC). It is expected that the AFC population will adopt more physically active lifestyles. The team's proposed research will generate needed confirmatory evidence about health benefits of AFCs to inform future environmental/policy interventions.

#### DREXEL UNIVERSITY, DREXEL CENTER FOR HEALTH + THE DESIGNED ENVIRONMENT

**Placemaking as a Strategy to Improve Physical Activity** represents the collaborative efforts of Drexel University faculty and students and McMichael School teachers, staff and children who have worked two years to create plans for a new playground on an existing barren site. Funding from ASPPH supports documentation of the case study to evaluate the impact of playground design on children's behavior and development of an online app that enhances efficient data collection.

#### UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

**Architecture Student ≠ Healthy Lifestyle** is an ongoing study based on in-depth interviews and first-hand observations to understand the habits and health awareness of a large sample of students. The research team wants to foster dialogue about the health and well-being of architecture students, and the behaviors which may follow students into practice.

**Contemporary Residential Environments that Promote Health Across the Lifespan** examines design issues of aging-in-place. Based on existing scholarship, the study proposes an analytical framework for evaluating market-generated housing choices and current design standards for residential environments.

**Research-in-Action for a Healthy Heart Peoria** seeks to identify appropriate environmental design strategies to simultaneously address environmental, economic, and health concerns in East Bluff and South Side neighborhoods. The cycles of inquiry, action, and reflection have enabled the team to identify issues that are significant to multiple stakeholder groups and propose community-centric solutions.

#### UNIVERSITY OF KANSAS

**Access to Healthy Food and Neighborhood Walkability** is a study arising from a multi-disciplinary, collaborative course between the public health and architecture departments of the University of Kansas. The team adapted and hybridized national protocols that assess food access, physical activity, and community-based research exercises to investigate the relationship between urban design and health disparities. The process has generated integrated



disciplinary perspectives and innovative forms of collaboration through technology and boots-on-the-ground engagement with affected communities.

**Innovations Rural Healthcare Environments** was a one-day think tank symposium in March 2016 which convened more than 100 healthcare providers, policymakers, and designers to outline specific research issues. The symposium focused on innovative design solutions can improve the efficiency and effectiveness of rural healthcare delivery. Key goals for the future of rural healthcare facilities include enhancing the sense of community connectedness with emphasis on health maintenance and prevention; proposing alternative models of rural healthcare delivery models; and integrating individual, interpersonal, organizational, community, and public policy.

#### **UNIVERSITY OF FLORIDA**

**Mitigating Indoor Thermal Extremes and Improving Health: A Case Study of Green and Healthy Housing for Older Adults** seeks to address the question of whether energy retrofits in affordable housing for seniors also improve climatic conditions. The study found that indoor climatic improvements do correspond with the improved health and well-being of residents.

#### **UNIVERSITY OF OREGON**

The Impacts of Weatherization on Microbial Ecology and Human Health aims to expand the understanding of the relationships among ventilation strategies, indoor air quality, and microbial ecology in residential homes, and their effects on human health. The research team seeks to publish two to four peer-reviewed journal articles.

#### **UNIVERSITY OF MIAMI**

**Neighborhood Greenness and Chronic Health Conditions in Medicare Beneficiaries** examines the association between objective measures of block-level greenness and chronic medical conditions in a large population-based sample of Medicare beneficiaries in Miami-Dade County. Based on the study, the team concluded that higher greenness may be effective in promoting health in older populations, particularly in poor neighborhoods, possibly due to increased time outdoors, physical activity, or stress mitigation.

# What's next

**Authentic, collaborative partnerships—including public participation from impacted communities—are instrumental in promoting safety, wellness, equity, and resiliency through design.**

The 2016 convening of the Design & Health Research Consortium continued the dialogue begun during the inaugural 2015 convening and demonstrated that architecture and public health collaboration is part of something larger.

The presentations touched on the intersecting roles of storytelling, grant proposal writing, and building value in communities. Research will go on, but it needs to be translated for practice. This requires the skills and multi-disciplinary channels to deliver research results to a world of application. Numerous case studies and experiences from the field make it clear that the way in which researchers and practitioners communicate their work has tremendous impact on their ability to find funders for their projects.

Authentic, collaborative partnerships—including public participation from impacted communities—are instrumental in promoting safety, wellness, equity, and resiliency through design. Participants repeatedly acknowledged that communities cannot be passive research subjects. Rather, they must be active partners in gathering data and shaping discourse and policy strategies.

Both architects and public-health workers need to seek more channels and opportunities to disseminate their research results. Collaborators from these two areas, especially if involved in multi-disciplinary work, must be willing to cross disciplines in pursuing publication.

In addition, architectural education should encourage students to better understand the connection between design and health, and to prepare for an evolving professional standard of care that addresses pressing public-health needs. Architects can add value to their practice by establishing health objectives and evidence-based design at the very beginning of a project. We need to promote more ways for practicing architects to access research more easily and earlier in the design process.

Consortium members continue to collaborate in innovative and dynamic ways within universities and with each other. They are seeking a more diverse representation of stakeholders at the table, including small-firm practitioners, building owners, real estate developers, funders, and social workers.

AIA and its partners have taken great strides in creating a multi-disciplinary future for education and practice. The role of the Consortium as a movement-building group is also expanding, as is the public intellectual role of academics committed to social responsibility. Finally, all stakeholders need the ability to reimagine the built environment as one that promotes health and wellness for all.



2016 Design & Health Research Consortium convening presented by:



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Institute  
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