

## The Role of Clinicians to Empower Communities through Utilization of the Built Environment

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“It is time for a shift to communities intentionally designed to facilitate physical and mental well-being. To effect this change, we need to draw upon the unique ability of humans to plan creatively for healthy communities.”

—Richard J. Jackson, MD, MPH

In recent years there has been a growing awareness about the impact of built environments on individual behavior, health and disease risk, morbidity, and mortality. The built environment encompasses the human impact on physical structures, materials, infrastructure, and spatial arrangements within communities for living. Crucial factors related to health (such as transportation and food deserts) and interactions between community members are influenced by human activity, culture, and environmental development. For years, traditional public health models used the built environment to address specific health issues related to air and water quality, land sanitation, toxin exposure, workplace and fire code safety, along with access for people with disabilities. However, inclusion of the built environment within medical framework is new for clinicians and educators. Recent research and in practice has shown the design of the built environment to enhance or constrain an individual's choices. It has a major influence on rates of chronic disease and medical conditions, social issues such as interpersonal and community violence, mental health, and social inequalities.<sup>1</sup> This field of study is interdisciplinary and interfaces with health policy and technology, management, community sustainability, and public/population health.

The built environment as an independent factor in community health and inequality is a nascent field. The profound effects of the built environment on both physical and mental health outcomes are especially pronounced among disadvantaged and vulnerable communities. In many cases, a change to the built environment will solve multiple issues simultaneously.<sup>2</sup> In so doing, the built environment is addressing the

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social inequalities that are both a cause and end result of health disparities, health injustice, and health segregation. Recreating the built environment has the potential to remove barriers and marginalization that currently divide communities. It serves as a lens for examining health that necessarily brings social justice into focus. It grants the rights of people to have a safe environment where they can live free from structural barriers that include air pollution, lack of affordable housing, poor transportation, lack of walkability, inadequate food access, and dearth of parks and green designs. These built environment themes are illustrated through various projects that will be discussed below as developed through a series of interviews with people organizing and leading ventures in this emerging field.

### **Built Environment: Conceptual Framework**

The built environment encompasses the layout, design, and designated use of a community's physical structures including its housing, transportation systems, recreational resources, food resources, and businesses.<sup>3</sup> There are factors associated with the built environment at various levels (including community, family, and individual) and these are all interrelated and linked to disparities in health outcomes. Community factors include transportation and business investments, food access, health care access, housing access, air and water pollution, contaminated land, sociocultural and psychosocial factors, and residential segregation. Family and individual factors include active living, dietary intake and patterns, behavioral outcomes, social isolation and social cohesion, family resources, and socioeconomic status.<sup>2</sup>

Low-income communities often lack the infrastructure to support healthy eating and active lifestyles.<sup>3</sup> Research has shown that low-income and vulnerable communities have few supermarkets with fresh foods and also a very limited number of parks and recreation facilities.<sup>2</sup> Proximity to small convenience stores (rather than grocery stores that sell fresh produce) has been linked with increased rates of obesity and tobacco use. On the other hand, individuals are more likely to be physically active when they live in communities with more parks and walking trails; accessible public transit; less litter, vandalism, and graffiti; and more pedestrian and bicycle friendly street patterns.<sup>4</sup> This physical activity acts as a protective factor against multiple chronic conditions including cardiovascular disease, obesity, diabetes, and musculoskeletal abnormalities. A lack of sidewalks, bike paths, and recreational areas can also trigger social isolation leading to increased rates of depression.<sup>2</sup>

## Role of Clinicians

“I used to write out careful exercise prescriptions for my patients and then it became obvious to me that I can write the prescription or make health recommendations, but if there really isn’t a safe place to walk or if there really isn’t appropriate food access for the nutritional guidelines I’ve recommended, then the things we ask of our patients are really not appropriate and not fair.”

—Doug Van Zoeren, MD

We, as clinicians, can have a narrow perspective on health that is limited to vital signs and what goes on in the exam room or we can have a broader perspective that is expanded to community health and acknowledging outside factors affecting the health of our patients. There are multiple pathways through which the built environment has a powerful influence on health and well-being. When health care providers don’t understand these pathways, they can give their patients advice that is not well informed and, in turn, they are not providing their patients with the best care. It is imperative that clinicians not only better understand the built environment but also play an active role, outside the exam room, in building future communities that promote physical and mental health. Health care providers should be involved in acting as catalysts, facilitators, advocates, and allies in collaboration with other health professionals, community leaders, community residents, and local organizations to create and promote healthy communities. There are three areas of action in which clinicians can bring about change.

## Bringing Guanajuato’s Walkability to Sacramento

First, clinicians can assess health impacts in development and evaluation of land use and community design options.<sup>3</sup> Teri Duarte, a public health nutritionist who previously managed the Sacramento County WIC nutrition program and now is Executive Director of WALKSacramento, knows this role all too well. Seven years ago Ms. Duarte was visiting Guanajuato, an almost completely pedestrian city in Mexico. “Walking is your mode of transportation whether you’re a senator going to office or a local picking up groceries,” said Duarte. She also noticed that people weren’t as overweight in Guanajuato as in the United States. Ms. Duarte came back to Sacramento wanting to bring ‘Guanajuato’s walkability’ to Sacramento. Among the many projects she undertook to integrate walkability and health concerns into land use planning, in August 2009 she organized *Design Sacramento 4 Health* in August 2009, in which a group of physicians and other health professionals came together to advocate for better land use to improve public health. The initial group of five health professionals expanded quickly to more than 25. The group included retired and practicing physicians (including pediatricians and family medicine physicians), nurses, and local university faculty physicians. They pushed for safe, quality space for pedestrians, cyclists, the disabled, seniors, and public transit users. Ms. Duarte feels that the clinician voice can be the most convincing to local planning committees and electives. During the county’s General Plan Update process, members of *Design Sacramento 4 Health* provided testimony on how smart growth, which promotes growth in compact walkable urban centers to avoid sprawl and

advocates higher-density, walkable, bicycle-friendly, mixed commercial and residential land use, can decrease automobile dependency resulting in higher levels of physical fitness, lower levels of obesity and chronic diseases, improved air quality, decreased respiratory diseases, less social isolation, and fewer traffic injuries and deaths. As a result of this, Ms. Duarte feels the county planning commissioners were educated about the built environment's impact on health and was able to take that into account while developing the county plan. Ms. Duarte also feels that the whole process raised awareness in the community about the interplay between the built environment and health.

### **The Metropolitan Branch Trail**

Secondly, clinicians can drive and facilitate transdisciplinary partnerships to plan new community structures and redesign existing ones, as Dr. Douglas Van Zoeren has successfully done.<sup>3</sup> Dr. Van Zoeren, prior Medical Director of the Washington Free Clinic and current Internal Medicine physician at Kaiser Permanente, has long been providing medical care to residents in the Washington D.C. area. Through his engagement with the community he realized the many challenges his patients' face, from not having places to exercise to not having stores nearby from which to procure healthy foods. Many years ago he became aware of an existing plan to develop a trail running through Northeast Washington, where many of his patients lived, but that it had a lot of "stops and starts" through it and that it was very difficult to use as a trail for walking, running, or biking. For more than a decade there were groups working on its improvement, but it almost seemed destined not to happen because of so many logistical complications and barriers. In 2007, Dr. Van Zoeren, along with Kaiser Permanente of the Mid-Atlantic States, worked with Rails to Trails Conservancy and the D.C. Department of Transportation in an effort to see this project through completion in order to provide the neighborhoods of Eckington and Edgewood with a place to be active and exercise in a safe environment. The result of their collaboration and efforts is a newly constructed 1.5 mile section of the Metropolitan Branch Trail (MBT). The eight-mile MBT stretches from Union Station, in the District of Columbia, to Silver Spring, Maryland. The route connects homes and workplaces, as well as providing access to seven metro stations.

When speaking of his experiences Dr. Van Zoeren emphasizes the power of working as part of a committed, high-functioning team: "I know that our effectiveness at Kaiser Permanente is facilitated by having individuals with complementary expertise on the team. To be effective, we need to identify opportunities for influence, plan our interventions strategically, and engage the correct team member at the right time. Just as in delivering health care to individual patients, a team approach is far more effective in impacting changes in the built environment." In collaboration with Rails to Trails and the District of Columbia Department of Transportation, programming and planning was conducted with residents in the communities of Northeast D.C. (Eckington, Edgewood, Takoma). He had multiple meetings with individuals living in the large apartment complexes along the trail. Ideas were solicited from individuals living in the large apartment complexes and attending the schools along the trail. These efforts resulted in a better understanding of programming features that would increase

trail use by local residents. Dr. Van Zoeren and the group also brought in community investments through the partnership with schools and businesses along the trail. The team also worked with Casey's Trees, a local nonprofit working to restore the D.C. tree canopy, to line a section of the trail with trees to create a continuous tree canopy to provide shade for those on the trail in the hot summers. Fruit trees were planted to create a small orchard that can be used as a pleasant, community gathering place. Mural paintings by various local artists and groups colorfully line stretches of the trail. At the Met Branch Trail's kickoff event in June 2010, Dr. Van Zoeren remarked, "Access to a safe venue for physical activity in this neighborhood is critical for promotion of wellness, prevention of obesity, and treatment of many chronic diseases. I see this trail as an invaluable new resource to improve the health of my patient—exercising on the Metropolitan Branch Trail is an exercise prescription I'll be writing, and it will have no unpleasant side effects!"

### **Providing Powerful Testimony**

Finally, clinicians can participate in advocacy and policymaking on built environment issues.<sup>3</sup> Dr. Van Zoeren feels that clinicians have the opportunity and the obligation to get out of the exam room and into other forums where they can advance community health. Health care providers can give talks about the built environment at various conferences, testify before their local city councils, serve on community advisory boards, submit and develop policy briefings and raise awareness for resources that do exist. Dr. Van Zoeren has played an active advocacy role through the *Healthy Eating Active Living Initiative* at Kaiser. Through this he testified in front of the City Council on the D.C. Healthy Schools Act, a landmark legislation affecting nutrition and physical activity in D.C. schools. In the hearing he was able to discuss the relationship between physical activity and school performance as well as the significance of incorporating physical activity into school curriculum. He says, "When a clinician stands up in front the City Council, it's powerful!" Ms. Duarte feels the same way, "To have a health care provider stand up there and say 'Let me tell you how this is affecting patients in my practice' is very powerful testimony."

Celeste James, Director of Kaiser Permanente's Community Health Initiatives, agrees that clinicians can play a crucial role in health advocacy and education of communities. "People respect 'the white coat,' so clinicians bring not only knowledge, but credibility to the dialogue," she says. She has helped health care providers within Kaiser Permanente to serve as advocates for health-supportive built environments—from safe, accessible trails and green spaces to quality food outlets that offer a variety of fresh, healthy food. Ms. James has observed that people don't always recognize the assets and the opportunities in their communities, and don't know what do with shortcomings—many fast food restaurants and few grocery stores; poor crosswalks or light poles in the middle of sidewalks hindering walkability; abandoned and dilapidated buildings that make the neighborhood feel unsafe. Ms. James feels strongly that "clinicians can and should take part in raising community awareness of these issues, and helping find solutions . . . clinicians can and should take part in raising community awareness about these issues."

Ms. James has played a significant role in the formation of the Port Towns Community

Health Partnership (PTCHP) in Maryland, a collaboration of community residents, organizations, and funders working together to change the community conditions that increase the risk of obesity, chronic disease, and health inequities in the Port Towns by encouraging sustainable practices, policies, and neighborhood conditions that foster a healthy and active environment. In developing its community action plan the Partnership engaged many stakeholders from different sectors—Parks and Planning, the Health Department, local nonprofit organizations, school representatives, a local church and others; however, they did not consistently have a clinician involved. In moving forward with the implementation of the plan, they aim to bring in health care providers to play a role on their newly developed policy and strategy teams. Ms. James feels that a clinician consulting on the project will help bring in evidence of the health consequences that result from lack of exercise or healthy eating. She feels that a health care provider can continually teach about practices that have the potential to make a positive impact on health outcomes and behavior.

Although there was not a sitting clinician in the Partnership during the planning phase, Kaiser Permanente provided expertise and learning from its sites across the country, and other valuable institutional partnerships were formed. The Georgetown Family Medicine Fellowship Faculty Director worked with core personnel to enhance various activities and submitted grant requests to support expansion of the PTCHP project and completion of its first phase. Additionally, with the support of Georgetown and the Association of Clinicians for the Underserved (ACU), a presentation about this community project was made at a national conference, describing the nexus of the project with the community's land use Sector Plan as an improvement opportunity. The next phase of the PTCHP will include greater participation with the Georgetown Family Medicine Fellowship clinicians given the previous demonstrated success and outcomes.

## **Conclusion**

As clinicians, we are trained to focus on each individual patient and his/her health problem. When epidemics of chronic illnesses such as diabetes, cardiovascular disease, asthma, obesity, and depression are seen we must realize that these are resulting from more than just the product of individuals' unhealthy choices. They are resulting from the built environment in which we live. We must widen our view of health to include everything surrounding a patient and our interventions must address the environmental opportunities and obstacles that shape health behavior.

Two-thirds of the structures that will be standing in the U.S. in 2050 are not yet built.<sup>5</sup> The potential for change is profound. Won't you join Ms. Duarte, Dr. Van Zoeren, Ms. James and the rest of us in building healthy environments and helping make the healthy choice the easy choice?

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## Notes

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