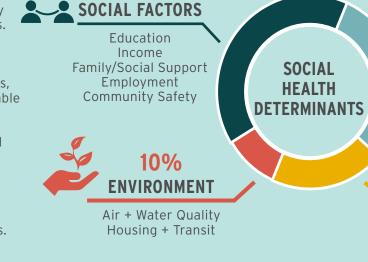
DESIGN'S ABILITY TO

Transform & Deliver Population Health

How do we create environments that fosters prevention and allow healthier aging?

Physical and social environments are key determinants in maintaining an autonomous, meaningful life along the aging process. Research shows that maintaining health, independence, and autonomy imbues longevity with wellbeing, a more meaningful life span, and lower healthcare costs.

The diversity of noncommunicable chronic diseases, which hamper healthy and active aging, also shares key modifiable lifestyle factors: sedentary lifestyles with lack of physical activity, poor nutritional habits, high stress levels, and lack of social connectivity. Each of these modifiable lifestyle factors can be improved with appropriate attention to how the built environment is designed, how architectural design enhances the creation of enabling spaces for mingling and connecting physically, and how green spaces and walkable communities create more active aging environments. By considering prevention and lifestyle choices during design, architects can contribute to healthier behaviors. Welcoming stairways and access to walking trails are design interventions that can encourage healthy behaviors. The goal is to create environments that support wellness in people of all ages, in order to reduce chronic illness.



40%

How can architects design to create **healthier communities?**

The U.S. spends more on healthcare as a share of the economy, yet has the lowest life expectancy and highest suicide rates among 10 other high-income countries. The planning and design of facilities can improve access to healthcare and enhance access equity between rural and urban and high and low income patients.

Social Return on Investment (SROI) -- a principles-based method for measuring values that are not traditionally reflected in financial statements -- is a way for architects to measure important social and environmental

HEALTHCARE SPENDING 1980-2018

PERCENT OF GDP, ADJUSTED FOR DIFFERENCES IN COST OF LIVING

ICU BED AVAILABILITY IN HOSPITAL SERVICE AREAS

0-4 Beds 4-7 Beds 7 Beds

CLINICAL CARE Access to Care

HEALTHY

BEHAVIOR

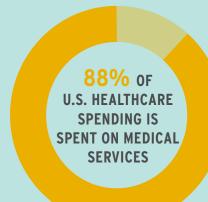
Tobacco Use

Diet + Exercise

Alcohol + Drug Use

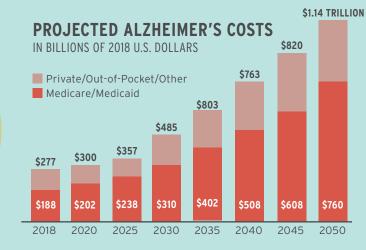
Sexual Activity

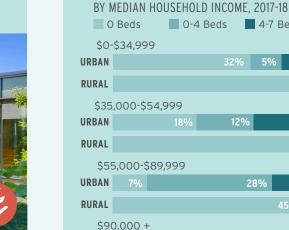
Quality of Care



4% of U.S. HEALTHCARE **SPENDING IS** SPENT ON HEALTHY **BEHAVIORS**





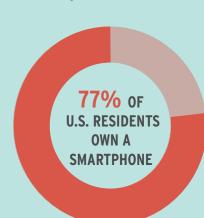


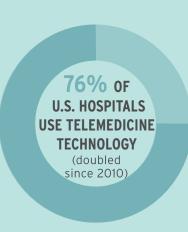




How does **technology combine with design strategies** in the built environment to deliver on the promise of healthier communities?

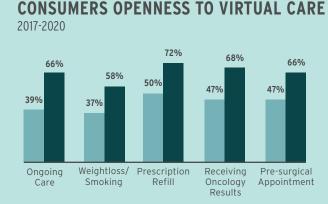
Through design, architects can alter the way communities conceptualize the notion of a sense of place or a building, and influence positive behavior change. Just as physicians strive to do no harm, architects have a responsibility to contribute to healthier lifestyle options in order to help society on a grand scale. Design can play a role in curtailing some of our biggest population health challenges. For example, the US has seen childhood obesity rates triple since the 1970's, which is dramatically increasing rates of type 2 diabetes. This trend will alter the chronic care needs of patients for generations, as they age and face multiple co-morbidities. Design solutions can work with clinical partnerships to evolve new models and locations of care types.





TELEMEDICINE

U.S. ADULT WEARABLE USERS MILLIONS AND % OF POPULATION Wearable Users



Makerspaces in hospitals and

medical 3D printing can be used to

produce medical surgical modeling,

prosthetics, research equipment and

MAKERSPACE

PERSONALIZED TECHNOLOGY Integrating personalized

technology in healthcare design fosters streamlined care and can enhance the patient experience by minimizing confusion and wait times.

United States: 16.9%

Switzerland: 12.2%

— Germany: 11.2 % - France: 11.2%

- Sweden: 11.0%

Canada: 10.7% Norway: 10.2%

- Netherlands: 9.9%

- Australia: 9.3%

- United Kingdom: 9.8%

New Zealand: 9.3%

OECD Average: 8.8%

35%





CLINIC + **COMMUNITY HUB**

Clinics can go beyond providing healthcare to become community hubs, offering educational programs, supporting food security, and promoting wellness.







UNIQUE BUILDING PROGRAM

Architects are reimagining healthcare buildings as integrated wellness hubs that contain researchers, clinics, childcare and community connections.









DESIGNING TO PROMOTE HEALTHY BEHAVIORS

An accessible rooftop park located atop a procedure platform offers patients access to nature and invites members of the surrounding community to visit the hospital grounds.











telemedicine but it remains to be seen if that trend is sustainable.

videoconferencing. It's most

common use is within hospitals, but the Covid-19 pandemic has

drastically increased the use of

REMOTE PATIENT MONITORING RPM technologies can monitor and capture health data from patients and electronically transmit the information to providers. Data can include blood pressure, weight, heart rate, and blood sugar levels.

Telemedicine connects patients to vital healthcare services through



AR / VIRTUAL REALITY The healthcare industry employs

custom parts for research.

virtual reality to offer a higher quality of care and efficiency to patients and caregivers. VR is being used in everything from surgical preparation to patient illness education and therapy.



PRECISION MEDICINE

Healthcare institutions are offering precision medicine, treatments that are based on an individual's genes. environment, and lifestyle. Cell and gene therapies must be produced in specialized cGMP facilities.

SMART TREATMENTS

Wireless sensors can be embedded in medications, sending data to a smartphone application and to the patient's physician. Personalized diagnostics that are non-invasive encourage compliance and increase

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