



building healthier workplaces

Wellness and well-being are topics of increasing interest, from breakrooms to board rooms around the world. In 2011, a Gallup Poll found full-time workers in the U.S. with one or more chronic health conditions miss an estimated 450 million additional days of work each year compared to healthy workers. The result is an estimated cost of more than US\$153 billion in lost productivity annually. With approximately 5.6 million commercial buildings in the U.S. housing roughly 120 million employees, small improvements to wellness and well-being can translate into billions of dollars in productivity benefits — not to mention the health, happiness and longevity of our most precious resources: people.

This three-part discussion speaks to the business case for wellness, the current state of wellness standards and benchmarks and case studies that illustrate the accomplishments of companies at the forefront of the wellness movement.

PART I *Ravi Bajaj makes the case for wellness and well-being initiatives and offers suggestions on how to get started with your own initiative.*

PART II *Reena Agarwal, provides an overview of the Fitwel Certification System, developed jointly by the U.S. Centers for Disease Control and Prevention (CDC) and the U.S. General Services Administration (GSA).*

PART III *The Better Buildings Initiative contributes two case studies of leading medical organizations implementing the WELL Building Standard and Fitwel Certification System.*

— Dean Stanberry, Chair of IFMA's ESUS Community

building asset value with health & wellness initiatives

BY RAVI BAJAJ

Health and wellness in our built environment is increasingly present in industry conversations today, and rightfully so. After all, buildings are designed, built, and operated for occupants to live, work and play. The U.S. Centers for Disease Control and Prevention, or CDC, has developed a “Healthy Places” program, and it defines the healthy environment as “those [places] designed and built to improve the quality of life for all people who live, work, worship, learn and play within their borders — where every person is free to make choices amid a variety of healthy, available, accessible and affordable options.”

In the workplace, the building is a tool for housing people to get a job done. Building management teams are often viewed as integral partners in achieving higher profit margins and productivity in any industry sector, as well as being part of the health and wellness discussion.

Building upon the momentum garnered by the sustainability movement, the concept of healthy buildings and places is undergoing medical and market research to inform the direction of the FM industry. Historically, there has been a reactive approach to health and wellness, such as reaction against incidences of exposure to contaminants. An example would be the response to Legionnaires’ disease and sick building syndrome in the 1980s. Since then, there has been a vast array of studies (dating back to the 1990s through today) that proactively address the physiological impacts of the work environment on increasing employee productivity, the prevention of chronic ailments and reducing absenteeism.

Today, the market seems to have embraced these proactive opportunities, and organizations are primed

to build upon this research to increase awareness of the human experience within buildings, as well as how our bodies react to the workplace.

When considering health and wellness strategies, and the current market for certifications and decision-making roadmaps, there are four key areas to consider:

- **Building owners, managers and engineers should consider wellness amenities and wellness-related building management in response to a perceived market interest.** These types of building assets can lead to increased building value, as well as productivity and employee retention. Along with increased market competitiveness, wellness amenities and initiatives can also improve the corporate structure itself by demonstrating concern for employee well-being.
- **Addressing health and wellness criteria is part of a proactive approach in the areas of building occupant management and building risk management.** A better building experience for occupants leads to better management results and improved risk management.
- **Third-party rating systems such as WELL Building Systems and Fitwel Certification Standards can provide a framework for incorporating wellness strategies.** Some of the results achieved through the adoption of these standards include decreased vacancy rate, more engaged occupants and increased market value.
- **Building management and ownership teams don’t have to create these initiatives from scratch,**

or on their own. They can develop and implement best practices for health and wellness programs using market-leader case studies and strategies listed within the WELL and Fitwel rating systems.

WHY GET INVOLVED?

Productivity studies have shown there is an increase in overall productivity, positivity and pride when programs are implemented to improve employee comfort, health and wellness. Designers and consultants use a conservative one percent increase in productivity to demonstrate return on investment, as it is hard to isolate causation in this dynamic space.

However, a report called “The Impact of Green Buildings on Cognitive Function” quotes studies from the Harvard T.H. Chan School of Public Health’s Center for Health and the Global Environment, SUNY Upstate Medical University and Syracuse University, which all found that improved indoor environmental quality doubled occupants’ cognitive function on test scores.

Parallel papers, such as Terrapin Bright Green’s report, “Economics of Biophilia”, also demonstrate that the psychological response to a building’s layout and finishes can result in further payback — whether from increased productivity or a general perception that a space is greener, healthier and more valuable.

These gains in productivity contribute positively to the largest share of a building’s lifecycle cost: personnel. Making the case for health and wellness is now well documented; however, budgeting for these improvements seems to be more of a creative exercise and challenge to businesses. How does an organization divide resources between asset management, personnel, health and wellness programs, risk management, and marketing? How will the return on investment be realized once strategies are implemented?

REACTIVE VS. PROACTIVE CONSIDERATIONS

There is a key distinction between two areas of the health and wellness movement: building assets and amenities versus the corporate wellness structure. In both areas, risk management is a response to an existing strategy that aims to reduce negative biological and mental impacts, while incorporating strategies that enhance employee or building occupant health.

From a facility management perspective, this can be tricky when compared to existing capital planning processes. Where we might see a failing

building system that needs replacement, or quick ROI opportunities when replacing a lighting system, incorporating health and wellness strategies can be either a long-term payback, or payback within a different department.

Return on investment is more difficult to isolate and warrant with health and wellness initiatives, since occupants may not be experiencing acute discomfort, yet they will feel the benefits when upgrades are made. Planning is not always reactive in these cases; it can be proactive.

Statements like “sitting is the new smoking” or “is your building killing you” are becoming more commonplace in popular media, and there is a general attitude that today’s workforce is demanding more intentionally designed and managed workspaces. This all stems from the well-known statistic that U.S. workers spend 90 percent of their time indoors.

While not all time indoors is at work, the direct and indirect impacts of time spent in the office — such as the air and water quality, transportation options, or access to healthy food — all impact a person’s state of well-being, as employees and building occupants.

Take, for example, the case of obesity in the United States. According to 2015 data from the CDC, “more than one-third (36.5 percent) of U.S. adults have obesity [and] obesity-related conditions, including heart disease, stroke, type 2 diabetes and certain types of cancer, some of the leading causes of preventable death.”

Furthermore, no state in the U.S. reported less than 20 percent obesity. Building asset strategies focused on fitness and physical activity can be proactive in addressing this issue. Strategies include the location of stairwells, sit-stand desks, indoor/outdoor fitness amenities and promotion of walking to and from the building, among others. Corporate strategies in response to this issue could include things like fitness incentives for a local gym, a bike-sharing program or a comprehensive healthy food campaign, if food services are provided to occupants or employees.

As a last example of proactive risk management, with the increased demand for healthy spaces there are more cell phone-based apps to measure air quality and contaminants. While their accuracy is very limited when compared to lab-grade testing equipment, procuring air quality testing or management services on a regular basis can get ahead of any occupants reporting self-tested data.

key areas of wellness with evidence-based outcomes

INDOOR AIR QUALITY

- Measure outdoor air delivery & provide adequate outdoor air for your space (ASHRAE 62.1 or higher)
- Provide adequate filtration of air supply (MERV 13 filters and cooling tower water treatment)
- Manage contaminants through materials selection and managing air recirculation:
 - *Select low/zero-VOC and contaminant-free finish materials*
 - *Provide for direct exhaust in specialty spaces (industrial functions, high-volume printing, restrooms, etc.)*
 - *Provide green building and healthy materials requirements for any Construction/Renovations*
 - *Select cleaning materials for their performance and healthy materials options*
- Added filtration, ongoing monitoring, olfactory comfort

LIGHTING

- Provide adequate lighting, optimizing for daylight, and managing glare
- Provide controllability for workstation lighting needs
- Optimize lighting system for Color Rendering Index (CRI) and Equivalent Melanopic Lux (EML)

WATER

- Incorporate water filtration for major contaminants and taste
- Provide drinking water easily accessible to all building occupants

COMFORT/NOURISHMENT/MIND/FITNESS

- Provide Free Address (workstation flexibility) with variation in the following areas:
 - *Thermal comfort*
 - *Acoustic comfort*
 - *Ergonomics*
 - *Lighting comfort*
- Incorporate Biophilic design elements
- Transition Corporate Policies to foster healthier physical workplace, fitness and activity, eating, and sleeping habits

These testing results can also serve as a basis for future planning and can provide a better understanding of how well the air handling systems are operating.

WHERE DO WE START?

Health and wellness is a broad topic that can make it difficult to identify a starting point. This is a space where industry groups and third-party certification systems can play a big role in providing a roadmap for investigation.

Certification systems build upon the lessons learned, and momentum gained, from the green building movement. The two most prominent health and wellness rating systems for buildings are the WELL Building Standard and the Fitwel Certification System.

Fitwel was developed over years of internal research between the U.S. General Services Administration and the U.S. Center for Disease Control and Prevention. The offices generated a checklist, or menu, of health and wellness initiatives for adoption in the form of a scorecard. The rating system is now being delivered by the Center for Active Design (CfAD), and it's available in a Fitwel BETA version as of August 2017 to individuals that are Fitwel Ambassadors and key partner companies called Fitwel Champions.

The scorecard has a list of credits that fall into twelve categories. Each strategy prescribed in the categories is then tied back to one of seven health impact categories, and each is weighted based on the anticipated impact and strength of supporting evidence. The benefit of this rating system lies in its development research and its lack of prerequisites. The result is in an evidence-based program that has a low barrier to entry, and it can be used to benchmark a building's current implementation of health and wellness strategies.

However, when compared with the WELL Building Standard, it's requirements are a bit less stringent and more focused on prescriptive strategies and corporate policies. The WELL Building Standard, conversely, isn't meant to apply to all buildings. Its stringent scorecard is made up of more than 100 features, which are allocated to seven wellness categories: air, water, lighting, nourishment, fitness, comfort and mind.

Approximately one-third to half of all features are required for certification at any level. Because it is evidence-based, the barrier to entry can be a big challenge. Not all buildings (old or new) meet these minimum requirements. Most features however, focus on performance measures that are tested for during the certification process. Like Fitwel, the WELL Building Standard was built upon years of research, which was performed by Delos and handed off to the International Well Building Institute.

Using the WELL Building Standard as a guide, the following list of best practices in key areas of wellness can provide a general outline

of where to look for opportunities. These build upon the work that FM teams perform daily, and they expand in key, measurable areas that have evidence-based outcomes.

The workplace is shifting in response to the demands of a younger workforce, the advent of mobile computing technologies and evidence from the last 100 years of office-based work. The inclusion of health and wellness is crucial to this ongoing dialogue — providing payback in the form of risk management, increased productivity, and marketing value.

Because health and wellness can be split into the sectors of building design and management versus corporate policies, and the effects are both physiological and psychological, it can be difficult to decide where to start. Tools and resources provided by the WELL Building Standard provide measurable strategies to start investigation, while both the WELL Building Standard and Fitwel contain examples of fitness and wellness incentives that corporate programs can build from.

These two rating systems, and the compendium of research that has gone into their formation, marks the start of a comprehensive understanding of, and response to, how people experience workplaces and indoor environments. It's up to us as facility managers, engineers and consulting vendors to identify the right strategies for each building, location and pool of occupants.

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digging into fitwel: FMs critical role in supporting health

BY REENA AGARWAL

Facility managers are in the unique, and sometimes challenging, position of setting and maintaining operational mechanisms that affect occupant health within workplaces. The Fitwel Certification System was developed to provide evidence-based design and operational policies that inform healthier decision-making around building occupants and the surrounding community.

Fitwel's development was a joint initiative led by the U.S. Centers for Disease Control and Prevention (CDC) and the U.S. General Services Administration (GSA), with additional input from experts in public health, design and facility management. The goal was to create cost-effective, high-impact, practical strategies that could be implemented to support well-being, equity and productivity in the workplace. The program developed tools and an incentive structure that, when implemented, create incremental positive changes that support healthier behaviors.

The Fitwel Certification System itself is accessed and administered through a web portal, which provides comprehensive information on the strategies, sample evidence and verification documentation required for certification. The portal also features a benchmarking option, which allows buildings to receive a numerical score that can be improved over time by enacting incremental changes.

The portal and strategies were pilot tested by facility managers across the U.S. in 2015, on 89 existing buildings in rural, suburban and urban environments, to ensure the system would be practical and widely applicable. In a follow-up

evaluation of the pilot study, 97 percent of participants reported that Fitwel’s portal is user-friendly, and 84 percent reported they have a better understanding of how their buildings support healthy behaviors.

When using the Fitwel system, each workplace has a unique set of Fitwel strategies that can be employed based on features such as size and location. However, there are sample Fitwel strategies that any facility manager can integrate within buildings to promote wellness. These include:

- **Strategy 3.6:** Supporting mental well-being by providing a healing garden or therapeutic landscape amenity onsite
- **Strategy 5.4:** Promoting daily movement by placing permanent signs promoting stair use at elevator call areas within a building
- **Strategy 12.1:** Supporting safety by creating and maintaining a database of building emergency equipment and supplies

WHY START WITH WORKPLACES?

Research has shown that health promotion through workplace programs, policies and built environment changes can specifically impact employee health and productivity, and that leads to potential savings in healthcare costs. With Americans spending more than 1,700 hours per year at their jobs, workplace environments strongly influence behaviors such as tobacco use, physical activity and diet. These behaviors, along with others impacted by the workplace environment, contribute to a heightened risk of chronic disease. That, in turn, contributes to rising health care costs and lost productivity for employers. A 2011 Gallup poll estimates the cost of lost productivity due to chronic illness is more than US\$153 billion annually.

THE NEED TO ADDRESS ALL BUILDINGS THROUGH STANDARDS AND POLICIES

Given that there are approximately 5.6 million commercial buildings in the United States, it is crucial that there is a renewed focus on ensuring existing buildings are optimized to promote health. More than ever, facility managers have the imperative and potential to impact their tenants’ health by incorporating design and operational strategies, such as Fitwel, into their buildings. Small, incremental, cost-effective changes within buildings of all sizes can be vital to reducing the burden of illness in our communities. For this reason, Fitwel was designed to be

used by occupants within all environments, regardless of budget, size, year built or zip code.

USING SCIENCE TO FOSTER HEALTHY BEHAVIORS WITHIN WORKPLACES

While a growing number of workplace wellness programs have been linked to positive health outcomes, the myriad environmental factors influencing healthy behaviors in the workplace has yet to be addressed. Years of research by the CDC and others provide evidence pointing to various building design and operational strategies that impact occupant health, both positively and negatively. After reviewing this research, Fitwel’s development team identified 63 strategies based on the strongest available scientific evidence to have the highest potential impact on human health.

Each strategy within the Fitwel Certification System is linked by scientific evidence to at least one of Fitwel’s seven Health Impact Categories:

- Impacts community health
- Reduces morbidity and absenteeism
- Supports social equity for vulnerable populations
- Instills feelings of well-being
- Provides healthy food options
- Promotes occupant safety
- Increases physical activity

Each strategy is assigned a point value that reflects its contribution to at least one of the Health Impact Categories. Those strategies with stronger, multi-faceted impacts, which are also based on published scientific evidence, receive more points. The weighting system also enables the points allocated to each strategy to be modified over time, as the scientific evidence evolves.

REENA AGARWAL is the Chief Operating Officer at the Center for Active Design, where she is responsible for research and policy efforts aimed at using design to promote health. She was previously a project director at the New York City Department of Design and Construction where she focused on regulatory and legislative efforts that promoted environmental sustainability and health in building design. Reena holds a Master of Urban Planning from New York University, a Bachelor of Architecture from the University of Michigan and has more than ten years of experience working as both an architect and planner, where she specialized in zoning and building code compliance. Her past projects involve the design and master planning of residential, commercial and university buildings in New York City. Reena is a member of the American Institute of Architects.

case studies from the u.s. better buildings challenge

BY BETTER BUILDINGS INITIATIVE

Businesses and organizations across the United States are adopting energy-efficient strategies to improve building performance and bolster bottom lines. The good news is, these technology upgrades to the building's infrastructure are a sound business decision. Energy-efficient upgrades and retrofits not only improve the bottom line, they also improve the experiences of building occupants — from office employees to health care patients.

The U.S. Energy Department's Better Buildings Initiative has partnered with corporations to create a Better Buildings Challenge to uncover the financial benefits of building upgrades and retrofits. In the process, they've also found essential customer benefits to improving building efficiency. Cleveland Clinic and Anthem — two health-related partners in the challenge — have each found success in creating highly-efficient, comfortable environments for their respective building occupants.

CLEVELAND CLINIC'S FUNCTIONAL MEDICINE

In September 2016, Cleveland Clinic, a world leader in patient experience, opened a 17,000-square-foot Center for Functional Medicine at its main campus. The new space boasts the latest technology and equipment in functional medicine and is seeking WELL Building certification in 2017.

WELL evaluates a building's indoor air pollution, water quality, nourishment from healthy foods and lighting systems designed to enhance occupant experience. It also considers integration of exercise into everyday life, comfortable and productive workspaces, cognitive and emotional health, and innovation for new ideas that impact the interaction between buildings and human health. Cleveland Clinic strives to use its best-in-class building features to meet WELL's core evaluation concepts. Tawny Jones, administrator

for functional medicine at Cleveland Clinic, said they are on track to meet WELL's performance standards.

"We examined how all of the features in our space affect our patients and employees. When you talk about the holistic approach, looking at the entire body, we determined that comfort plays a big role in how we're going to achieve optimal health," Jones said.

According to the Cleveland Clinic, the Center for Functional Medicine expects to see more than 4,000 patients in 2017, a 300 percent increase over 2016. This new center continues to support the clinic's mission of providing healing environments for patients receiving care. That mission acknowledges the inherent link between human health and environmental health.

ANTHEM INCORPORATES ENERGY EFFICIENCY

In addition to Cleveland Clinic, other Better Buildings partners are doing more to ensure their facilities incorporate aspects of health and wellness in the built environment. At the 2017 Better Buildings Summit, Anthem, a leading health benefits company, shared the presentation, “High Performance Buildings for High Performing People.” In it, they outlined several key factors to create high-performing buildings that promote wellness.

Anthem’s strategy for wellness in commercial buildings starts with its workforce. Determining the health and wellness factors that matter most to employees is where any company hoping to attain a high performing, healthy building should start, according to Anthem. Before planning building upgrades and retrofits, such as onsite fitness centers, open stairs and healthy cafeterias, it’s important to receive input from employees first.

Anthem plans to operationalize its commitment to wellness by partnering with Fitwel, a buildings certification aimed toward supporting healthier environments and working conditions in existing buildings. Using Fitwel as a guideline, Anthem will benchmark and certify a number of buildings in its portfolio.

By achieving Energy Star and Fitwel certifications, the company has stated it will showcase a 360-degree approach to energy efficiency, health and wellness. For more information about Anthem and the Better Buildings Challenge, visit www.betterbuildingsolutioncenter.energy.gov/partners/anthem-inc.

To learn more about the Better Buildings Initiative and what partners are doing to promote health and wellness, visit www.betterbuildingsolutioncenter.energy.gov.

THROUGH THE BETTER Buildings Challenge, the U.S. Energy Department’s Better Buildings Initiative is partnering with more than 345 private businesses and public-sector organizations to achieve 20 percent portfolio-wide energy savings and share successful strategies that maximize efficiency over the next decade. These organizations represent more than 4.4 billion square feet of building space, include more than 1,000 industrial facilities, and have committed \$7 billion in financing. Since the Challenge launched in 2011, partners have shared over 1,000 solutions, saved 240 trillion Btu, and cut an estimated \$1.9 billion in energy costs.

Read how partners are increasingly working to catalyze change and investment in energy efficiency, and their proven solutions, in the Better Buildings Solution Center.

