STRATEGIES FROM THE WELL BUILDING STANDARD TO SUPPORT IN THE FIGHT AGAINST COVID-19

Prevention and Preparedness, Resilience and Recovery

INTERNATIONAL WELL BUILDING INSTITUTE™

Buildings, communities and organizations play a leading role in supporting our health and well-being, as well as our collective ability to prepare for and respond to global health challenges like the one we're experiencing now.

> "If managed poorly, [buildings] can spread disease. But if we get it right, we can enlist our schools, offices, and homes in this fight."

- Joseph Allen, DSc, MPH

Co-Chair, IWBI Task Force on COVID-19 and Other Respiratory Infections: Prevention and Preparedness, Resilience and Recovery; Assistant Professor of Exposure and Assessment Science and Director of the Healthy Buildings Program at Harvard's T.H. Chan School of Public Health

WELL STRATEGIES IN ACTION

The WELL Building Standard (WELL), a framework utilized by 4,100 projects across more than 540 million square feet, was created to help people thrive in the buildings where we spend our lives. With its research backing and global focus, we believe that WELL can be an especially pertinent and helpful tool during this time. Many of the evidence-based strategies within it, spanning building design and operations, as well as company policies and culture, provide an actionable framework for organizations and communities responding to COVID-19* and preparing for a safer and healthier future.

To that end, we've identified and grouped select, applicable strategies from the WELL Building Standard v2 pilot (WELL v2) around key themes that reflect how organizations can approach prevention and preparedness, resilience and recovery in relation to COVID-19 and other respiratory infections, from enhancing air quality to supporting mental health. Each specific strategy is linked to more information within the digital version of the WELL v2 system.

KEY THEMES

1. Promote clean contact
2. Improve air quality
3. Maintain water quality
4. Manage risk and create organizational resilience
5. Support movement and comfort, including work from home
6. Strengthen immune systems
7. Foster mental resilience
8. Champion community resilience and recovery

Our intention had been to bring WELL v2 out of pilot in March. However, in light of the COVID-19 pandemic, we put those plans on pause, and on March 19, IWBI launched the Task Force on COVID-19 and Other Respiratory Infections: Prevention and Preparedness, Resilience and Recovery, a concerted global effort to help further define the leading role buildings, organizations and communities can play in reducing the health burden from this and other infectious diseases.

Chaired by 16 renowned experts, and populated by over 540 thought leaders and authorities from across public health, medicine, design, real estate, government and academia, the Task Force goals are two-fold:

- Inform new Guidelines for Prevention and Preparedness, Resilience and Recovery for individuals, organizations and communities to help them better integrate actionable insights and proven strategies into how they manage both their buildings and their organizations.

- Assess ways in which the WELL Building Standard can be further strengthened in this moment and also into the future, reflecting any new research and incorporating evidence-backed strategies that have evolved in response to the COVID-19 pandemic.

While these more comprehensive guidelines are still underway, we hope this document will serve as a roadmap to help you plot the path forward toward a brighter, healthier and more secure future.

HOW TO READ THIS DOCUMENT

WELL v2 consists of 10 concepts focused on human health:

- Air
- Water
- Nourishment
- Light
- Movement
- Thermal Comfort
- Sound
- Materials
- Mind
- Community

This document groups applicable features from the WELL v2 pilot into eight key themes that organizations can activate. We encourage you to follow the links to each WELL feature for information on implementation, evidence and general background.

*SARS-Co-V-2 (severe acute respiratory syndrome) is the virus that causes the disease, COVID-19. This paper will refer to COVID-19 throughout. World Health Organization.

1 | **PROMOTE** CLEAN CONTACT

COVID-19 is spread primarily through close contact with an infected person via respiratory droplets. Research suggests that the virus can remain airborne for up to three hours and on some surfaces for up to 72 hours.[1] Maintaining good cleaning protocols and handwashing habits can support individual and organizational resilience by helping reduce the chance of infection. Soap has been found to be more effective than hand sanitizer in community settings, though hand sanitizer with at least 60% alcohol by volume can also be used.[2]

WELL STRATEGY

Reduce exposure to pathogens, allergens and hazardous cleaning chemicals

Handwashing - WELL Feature W08

Reduce pathogen transmission associated with washing and drying hands by providing sufficiently large sinks, disposable soap containers and hand-drying towels.

Cleaning Products & Protocol - WELL Feature X09

Implement a rigorous cleaning protocol that addresses high-touch surfaces, provide annual trainings, maintain cleaning logs and restrict use of hazardous or harmful ingredients in cleaning, disinfection and sanitization products.

2 | **IMPROVE** AIR QUALITY

Air stagnation may concentrate airborne viruses or dust, so it is critical to keep indoor air as refreshed as possible. Research has shown that increased ventilation in a building can reduce the chance of influenza; a study published in 2019 found that ensuring even minimum levels of outdoor air ventilation reduced influenza transmission as much as having 50-60% of the people in a building vaccinated.[3]

Without proper maintenance and filtration, heating, ventilation and air conditioning systems can build up mold and particulates that can propagate respiratory diseases, especially after periods of inactivity. [4, 5]

There is also evidence that humidity can play a role in the survival of viruses such as COVID-19.[6] As such, maintaining relative humidity between 40% and 60% may help to limit the spread and survival of COVID-19.[7] Organizations should weigh the effectiveness and complexity of humidification systems against other air purification strategies.

WELL STRATEGY

Reduce indoor air quality issues by providing adequate ventilation and filtration

Ventilation Effectiveness - WELL Feature A03

Bring in fresh air from the outside through mechanical and/or natural means to dilute human and product-generated air pollutants.

Enhanced Ventilation - WELL Feature A06

Implement advanced ventilation strategies such as increased outdoor air supply, demand-control ventilation, displacement ventilation and advanced air distribution that can enhance air quality.

Operable Windows - WELL Feature A07

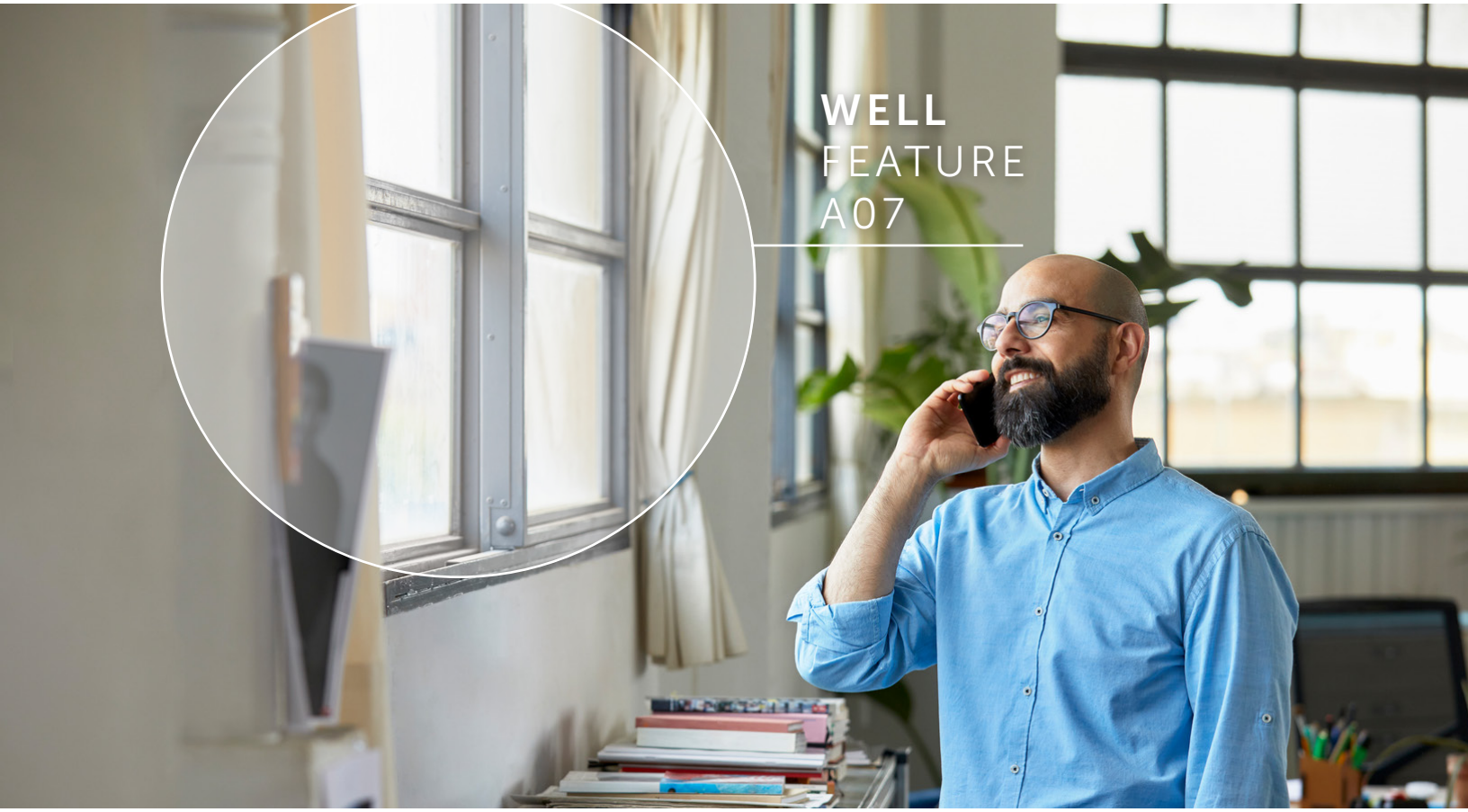
Provide operable windows and encourage building users to open windows when outdoor air quality is acceptable.

Air Filtration - WELL Feature A12

Implement adequate air filtration and document a maintenance protocol for installed filters.

Microbe and Mold Control - WELL Feature A14

Implement ultraviolet air treatment.



WELL STRATEGY

Manage humidity and control sources of indoor moisture

Moisture Management - WELL Feature W07

Implement design strategies to limit moisture accumulation and the potential of mold growth from water infiltration and condensation within buildings.

Humidity Control - WELL Feature T07

Limit the growth of pathogens and maintain relative humidity levels that are conducive to human health and well-being.

3 | **MAINTAIN** WATER QUALITY

Exposure to a range of contaminants in water can result in negative health impacts including the spread of infectious disease.[8] Water is typically treated with chlorine to keep it free of pathogens. However, if left stagnant after a period of vacancy, chlorine is likely to lose its disinfection power, creating opportunity for pathogens to contaminate the water.[9]

WELL STRATEGY

Test your water to ensure it's safe for use

Fundamental Water Quality - WELL Feature W01

Meet performance thresholds for turbidity and coliforms for all water likely to come in contact with building occupants.

Water Contaminants - WELL Feature W02

Provide drinking water that meets performance thresholds for dissolved metals, organic pollutants and disinfectants.

Enhanced Water Quality - WELL Feature W04

Provide drinking water that meets performance thresholds for contaminants that affect aesthetics and taste.

Water Quality Consistency - WELL Feature W05

Filter drinking water and perform quarterly water quality tests.

4 | **MANAGE** RISK AND CREATE ORGANIZATIONAL RESILIENCE

Emergency preparedness planning is a risk management approach that enables rapid response. Organizations should regularly re-evaluate their emergency preparedness plans; adaptability and flexibility are essential components of preparedness and recovery.[10] A key thing to consider in response to COVID-19 is support for working parents.[11,12] Because of global school closures, many professionals are full-time caregivers at home and are struggling to balance responsibilities.[13]

Organizations should align their emergency preparedness plans with data that reflects the diverse needs of their employees. Occupant surveys are an established tool for understanding and evaluating people's perceptions of indoor environmental conditions, wellness policies and their own health and well-being.[14] Decision makers can use survey results to measure progress, identify priority areas for response and implement plans to make the organization or building healthier, safer and more productive.[15]

Regularly capturing occupant feedback can enable organizations to have a baseline from which to inform and create organizational policies and protocols, including emergency protocols. Many surveys can be customized for an organization's specific needs to address topics like worker performance, satisfaction and well-being before, during and after a period of remote work. Surveying employees when they return to their physical workplace after an extended absence can help leadership to evaluate the effectiveness of the strategies that were deployed before, during and after. Return-to-work surveys can also help identify current mental health challenges and inform new support strategies for employees.

WELL STRATEGY

Prepare for emergencies

Emergency Preparedness - WELL Feature C15

Develop an emergency management plan and supporting resources.

Family Support - WELL Feature C10

Enable working parents and caregivers to care for members of their family.

WELL STRATEGY

Be informed by evidence

Occupant Survey - WELL Feature C03

Establish minimum standards for the evaluation of occupant experience, health and well-being.

Enhanced Occupant Survey - WELL Feature C04

Collect and respond to in-depth feedback from building users on their comfort, satisfaction, behavior, health and other robust factors related to their well-being, both before and during occupancy.

5 | **SUPPORT** MOVEMENT AND COMFORT, INCLUDING WORK FROM HOME

Current stay-at-home orders worldwide have turned COVID-19 into the "...world's largest work-from-home experiment"[16] with many companies scrambling to set up their staff remotely. While data is scarce, prior to the onset of COVID-19, up to 44% of companies globally did not allow remote work. Organizations therefore may not be prepared to provide guidance to their teams as to how to create a functional and comfortable home workspace and work-from-home experience.[17]

Ergonomics is the study of how the work environment meets the user's needs. With more people working from home than ever, understanding how to provide remote-work ergonomics and support for physical activity and movement throughout the day is key. While WELL does not directly address work-from-home-scenarios, many strategies can be meaningfully adapted for home-based work.

WELL STRATEGY

Support movement and proper ergonomics

Visual and Physical Ergonomics - WELL Feature V02

Reduce physical strain and injury as well as improve comfort, safety and general well-being through ergonomic design and education.

Active Furnishings - WELL Feature V07

Discourage prolonged sitting and sedentary behaviors by providing active workstations and furnishings.

Enhanced Ergonomics - WELL Feature V10

Collaborate with a qualified professional to audit ergonomic conditions and provide recommendations for improvement.

Self-Monitoring - WELL Feature V12

Provide occupants access to wearables that can monitor individual physical activity metrics.

6 | **STRENGTHEN** IMMUNE SYSTEMS

Based on the effects of previous SARS outbreaks, COVID-19 is predicted to have lasting physical and mental health impacts.[18] Providing individuals with access to health-promotion strategies, education and resources can help them to cultivate healthy habits and resilience in response to physical and mental health stressors. A healthy immune system helps the body fight infections and reduces co-morbidities that are associated with a greater risk for infection.[19]

Smoking can increase comorbidities for influenza such as chronic obstructive pulmonary disease (COPD). Those who smoke or have COPD are at increased risk for developing COVID-19.[20] Smoking is associated with multiple negative health outcomes such as reduced life expectancy, respiratory infections, coronary heart disease and cancer.[21]

Chronic disease increases vulnerability to COVID-19; the consumption of fruits and vegetables is a key component of a healthy dietary pattern for the prevention of chronic disease.[22] Further, adequate hydration is important for maintaining overall health. Water is a major component of cells and the dominant component of fluid between the cells and is the medium for the transport of nutrients and waste throughout the body.[23]

Physical inactivity has been attributed to a rise in premature mortality and chronic diseases, including type 2 diabetes, cardiovascular disease, depression, stroke, dementia and some forms of cancer. [24-26] Combating sedentary habits by incorporating movement and exercise throughout the day is known to positively impact health on multiple fronts.[25]

Poor quality sleep, or not enough sleep, has been associated with a range of negative health outcomes, including impaired immune function.[27] Exposure to daylight and circadian lighting design has been shown to have a positive impact on sleep quality.[28]

WELL STRATEGY

Offer physical and mental health benefits

Health Services and Benefits - WELL Feature C05

Provide access to essential health services, screenings and assessments.

Mental Health Support - WELL Feature M03

Increase availability of and access to mental health support services and care.

WELL STRATEGY
Cultivate a culture of health

Health Promotion - WELL Feature C06

Cultivate a culture of health through various health promotion strategies, including regular communications, stakeholder involvement and health risk assessments.

WELL STRATEGY
Mitigate the risks of smoking

Smoke-free Environment - WELL Feature A02

Deter smoking, minimize occupant exposure to secondhand smoke and reduce smoke pollution.

Tobacco Prevention and Cessation- WELL Feature M13

Provide access to tobacco cessation support programs and promote prevention by providing education on the health consequences of tobacco use.

WELL STRATEGY
Stay nourished and hydrated

Fruits and Vegetables - WELL Feature N01

Promote the consumption of fruits and vegetables by making them easily accessible.

Drinking Water Promotion- WELL Feature W06

Promote hydration by making high-quality drinking water readily available.

WELL STRATEGY

Enable physical activity throughout the day

Physical Activity Opportunities - WELL Feature V06

Provide complimentary physical activity opportunities led by qualified professionals.

Physical Activity Spaces and Equipment - WELL Feature V08

Provide access to dedicated physical activity spaces and equipment at no cost.

Physical Activity Promotion - WELL Feature V11

Provide a diverse range of physical activity incentives.

WELL STRATEGY

Promote healthy sleep habits

Circadian Lighting Design - WELL Feature L03

Provide appropriate exposure to light for maintaining circadian health and aligning the circadian rhythm with the day-night cycle.

Sleep Support- WELL Feature M11

Support healthy, restorative and consistent sleep habits through policies, education and resources.

7 | **FOSTER** MENTAL RESILIENCE

Mental health is not simply the absence of a mental health condition.[29] Rather, it's a state of well-being in which individuals are able to live to their fullest potential, cope with the normal stresses of life, work productively and contribute to their community.[29] Stress is known to weaken the immune system and chronic stress is associated with increased risk of numerous adverse health consequences, such as depression, cardiovascular disease, diabetes and upper respiratory infection.[29,30] Having access to health services, mental health support and restorative programming are important before, during and after any health crisis.

A connection with nature through plants, water, light and views, as well as an indirect connection through natural materials, patterns, colors or images, has been found to improve mood, recovery from stress and concentration.[31] Research has also shown that breaks from work are linked to employee well-being, higher life satisfaction and mood, sustained workplace performance, lower burnout and fewer health complaints.[32]

WELL STRATEGY

Maintain mental health

Mental Health Promotion - WELL Feature M01

Promote mental health and well-being through a commitment to mental health education, programming and initiatives.

Mental Health Education- WELL Feature M04

Promote mental health awareness and support by making mental health education and training available.

Stress Support- WELL Feature M05

Identify and mitigate sources of workplace stress and provide programs that support stress management.

Restorative Opportunities- WELL Feature M06

Create opportunities for mental recovery and restoration by providing micro- and macro-breaks from the workplace.

Restorative Programing - WELL Feature M08

Support access to programs that promote restoration, relaxation and relief from mental fatigue or stress.

WELL STRATEGY

Provide access to nature and natural light

Access to Nature - WELL Feature M02

Incorporate nature into the design of interior and exterior spaces by integrating plants, water, light and views, as well as natural materials, patterns, colors or images.

Enhanced Access to Nature - WELL Feature M09

Provide enhanced access to plants, water and natural views.

Light Exposure and Education - WELL Feature L01

Provide appropriate light exposure in indoor environments by using daylighting or electric lighting strategies, and provide education about the importance of light for health.

Enhanced Daylight Access - WELL Feature L05

Integrate daylight into indoor environments and provide windows with views outside.

8 | **SUPPORT** COMMUNITY RESILIENCE AND RECOVERY

Providing spaces for community engagement and connection can foster social cohesion, community empowerment and collective trust; all of which have been linked to positive mental and physical health outcomes.[33] Companies that do not demonstrate strong social values through community engagement initiatives may experience lower employee morale, engagement, pride and productivity.[34] Individuals with community and social support generally have better mental health than those without strong community connections.[35]

In addition, strong local food networks help communities prepare for emergencies. Pandemics, wars and natural disasters disrupt supply chains and can heighten food insecurity globally.[36] Local food networks can provide some security during the disruption of national or global supply chains while supporting small and medium sized farms.[37] Additionally, engaging with local suppliers not only helps local businesses, but can also result in social benefits and healthier eating habits.[38,39]

WELL STRATEGY

Support local communities and foster community connections

Civic Engagement - WELL Feature C11

Encourage the creation of opportunities for individuals to become actively involved in and connected to the surrounding community through engagement and volunteerism.

Community Access and Engagement- WELL Feature C16

Create opportunities for community members to connect and collaborate.

WELL STRATEGY

Provide access to localized food sources

Food Production - WELL Feature N12

Improve access to fresh produce and provide opportunities for on-site food production.

Local Food Environment- WELL Feature N13

Support healthy food access and reduce environmental barriers to healthy eating.

Explore the WELL features listed above in greater detail on wellcertified.com.

Visit wellcertified.com/placesmatter to stay up to date on all of our efforts and resources related to COVID-19.

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