



WELL

Equity Rating

# INTRODUCTION

## *A Roadmap for Addressing the Largest Disparities*

Globally focused calls for change are training society's attention on the needs of the most vulnerable. From the international movement sparked by George Floyd's murder to the healthcare crisis highlighted by global vaccine inequity, the path toward rectifying these longstanding issues takes different forms but speaks to a universal human need for equity. Organizations and communities are stronger when everyone is empowered. We all play a role in addressing the deep-rooted societal inequities the world faces today.

In 2021, companies saw record numbers of resignations attributed to employees demanding better workplace conditions and equitable work-life balance policies. Global studies show that employees in diverse and inclusive workplaces are more likely to enjoy their jobs, work harder, innovate more and ultimately stay with their employers longer.<sup>1-4</sup> Diverse organizations have also been found to be nearly a third more productive and 21% more profitable than their peers.<sup>4,5</sup> Now more than ever, society and businesses around the world are looking for a tangible path forward to help them follow through on their DEI commitments and create places where everyone feels welcome, seen and heard.

The WELL Equity Rating gives organizations an actionable framework to improve access to health and well-being, celebrate diversity, prioritize inclusivity and promote sensitivity while addressing disparities in populations that have been traditionally marginalized and underrepresented. The WELL Equity seal is a visible indication that an organization is committed to creating places where everyone has an equal opportunity to thrive. Enterprises that pursue the rating as part of WELL at scale are also eligible to receive organization-wide metrics to benchmark performance and track progress against industry peers over time.

## *Program Details*

The WELL Equity Rating contains more than 40 features spanning six action areas:

- User Experience and Feedback (EE)
- Responsible Hiring and Labor Practices (EH)
- Inclusive Design (ED)
- Health Benefits and Services (EB)
- Supportive Programs and Spaces (ES)
- Community Engagement (EC)

In addition, the WELL Equity Rating recognizes projects which have achieved innovative approaches to promoting the creation of more equitable spaces. Projects must achieve at least 21 points to be awarded the WELL Equity Rating. Unless otherwise indicated, each feature is one point. To maintain the rating, projects undergo an annual renewal process to confirm their policies, programs and/or designs continue to meet the feature requirements.

For program details regarding WELL Core applicability, space types, occupant types and the WELL project boundary, please refer to the [Overview of the WELL Building Standard \(WELL Standard\)](#).

## *Developing the WELL Equity Rating*

The International WELL Building Institute (IWBI) is the leading authority for transforming health and well-being in buildings, organizations and communities. IWBI's mission is to lead the global movement for putting people first in organizational decision-making and culture. IWBI sets the global standard for health through the WELL Standard, a library of holistic, evidence-based strategies that, when implemented, can improve the health and well-being of people. Developed over 10 years and backed by the latest scientific research, the WELL Standard contains over 100 features organized into 10 categories called concepts. The WELL program (WELL) reflects the application of the WELL Standard; IWBI allows organizations to implement the WELL Standard in a flexible and customizable way to meet specific health and well-being goals and drive outcomes for their business.

WELL achievements are earned through the successful implementation of WELL features. WELL Certification is the highest pinnacle of achievement of strategies across all 10 concepts within the WELL Standard. WELL Ratings are achievements earned on a targeted subset of strategies from within the WELL Standard. Starting in 2021, IWBI began developing the WELL Equity Rating alongside 158 advisors, including 44 co-chairs from 26 countries from varying stages in life and career.

The WELL Equity Rating was developed through a design thinking approach which is a non-linear path to problem solving through collaboration with people on the margins who are not commonly considered. Decades of scientific literature including industry, public health and built environment research laid the groundwork to the structure, format and content of the rating. To develop the rating, in addition to reviewing volumes of research and scores of studies, IWBI engaged with organizational leaders, practitioners and members of the community. Engagement types included co-chair interviews, stakeholder roundtables, surveys for both employers and employees, webcasts and a community forum for asynchronous discussion. IWBI also solicited select feedback from the target populations in the WELL Equity Rating and worked with individuals with underrepresented backgrounds of all ages to understand their priorities.

## *Implementing the WELL Equity Rating*

The purpose of the WELL Equity Rating is to address the needs and priorities of the most marginalized populations in workplaces and the communities in which they operate. To have the greatest positive impact, organizations need to identify the marginalized population(s) they serve and work collaboratively with those communities to understand and accommodate their needs.

## *Recommendations for implementation*

- Conduct a needs assessment at the beginning of the process to identify areas for greatest potential impact, including people, policies and locations, to inform feature selection. Consider pursuing feature EE1: Create DEI Assessment and Action Plan to guide the process.
- Work with a Diversity, Equity and Inclusion (DEI) professional to develop organizational equity goals. Throughout the process, the DEI professional can support the organization in prioritizing efforts that have the greatest impact.
- Link equity goals with business goals and integrate them with organizational processes. Update goals on a regular basis; creating an equitable organization is an iterative process.
- Hold managers and leaders accountable for meeting organizational equity goals to support transformational success. Achieving organizational equity goals requires a collaborative effort.
- Use a combination of top-down and bottom-up approaches; secure buy-in from executive leaders and members of the board of directors, as appropriate. For the greatest impact, organizational leaders should champion the equity goals and action areas within and outside the organization.
- Lead with empathy and authenticity and provide continual encouragement and training where possible.

Adapted to focus specifically on strategies that support equitable, people-first places for populations that face the most disparities, the WELL Equity Rating provides an accessible entry point for both single locations and for organizations with multiple locations. The WELL Equity Rating is also a tool that can improve an organization's Environmental, Social, and Governance (ESG), Corporate Social Responsibility (CSR) and/or social impact outcomes. As a third-party verified process, participation in the

WELL Equity Rating communicates that the organization is accountable and taking meaningful action toward addressing its equity commitments.

#### **Definitions and Criteria**

In collaboration with expert partners and stakeholders, the following definitions grounded the development of the WELL Equity Rating. These definitions have informed IWBI's concept of equity and guided the development of new strategies within the WELL Standard:

- **Health Equity:** Health equity means that everyone has a fair and just opportunity to be as healthy as possible.<sup>6</sup> Achieving this state requires the removal of obstacles to health (such as poverty and discrimination) and their consequences (including powerlessness, as well as the lack of access to good jobs with fair pay, quality education, optimal housing, safe environments and good health care).<sup>6</sup>
- **Equity:** Equity recognizes that each person has different circumstances and, accordingly, allocates individualized resources and opportunities to reach an equal outcome.<sup>7</sup>
- **Well-being:** Well-being is a state of balance or alignment in body, mind and spirit; it is feeling content and connected to purpose, people and community.<sup>8</sup> Well-being cannot be fully realized without considering one's identity, values, traditions and beliefs.
- **Diversity, Equity and Inclusion (DEI):** DEI promotes the fair treatment and full participation of all people, especially at work, including populations that have historically been underrepresented or subject to discrimination because of their background, identity, disability, etc.<sup>9</sup> Various abbreviations and terms for DEI exist, such as Diversity & Inclusion (D&I); Equity, Diversity and Inclusion (EDI); Justice, Equity, Diversity and Inclusion (JEDI). IWBI has adopted the term DEI, understanding that justice is integral to obtaining positive outcomes.

The strategies in the WELL Equity Rating are drawn from those in the WELL Standard and have been selected to help organizations prioritize and implement equitable policies, programs and design interventions for the most marginalized people. To identify the populations most often marginalized in workplaces, IWBI undertook an extensive process which included research and the engagement of hundreds of stakeholders across the globe. These were the populations identified:

- **First-Generation Immigrants:** The first member(s) of a family to acquire citizenship or permanent resident status.<sup>10</sup>
- **LGBTQ+:** An acronym for people who identify as lesbian, gay, bisexual, transgender and queer or questioning. This term is meant to be inclusive of any sexual orientation or gender identity.<sup>11</sup>
- **People Who Have Been Racially and/or Ethnically Minoritized:** Those who are not considered as part of a dominant race, ethnicity or caste resulting in systemic, structural and institutional discrimination.<sup>12</sup>
- **People Who Are Neurodivergent:** A person whose neurocognitive functioning diverges from dominant societal norms.<sup>13</sup>
- **People Who Are Physically Disabled:** A person who is impaired or limited by a physical or developmental condition.<sup>14</sup>
- **Primary Caregivers:** A person fulfilling primary responsibilities to care for a person who needs ongoing support such as a child, dependent, spouse, domestic partner, parent, parent-in-law, grandparent, grandchild or sibling.<sup>15</sup>
- **Women and Girls:** A person who identifies as female.

To develop the criteria used to select features for the WELL Equity Rating, IWBI convened the Health Equity Advisory and held roundtables for people from different backgrounds, industries and locations. The following criteria were identified as key factors for an equitable workplace:

- **Access:** Does this strategy provide equitable access to an organization or physical space for the populations identified?
- **Support:** Does this strategy support day-to-day inclusion and representation for the populations identified?
- **Retention:** Does this strategy engage employees and increase the likelihood of employee loyalty through demonstrative action of DEI goals?

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## USER EXPERIENCE AND FEEDBACK (EE)

The User Experience and Feedback action area promotes strategies that help organizations understand the needs of their stakeholders and create plans to support action and accountability.

Within every built space there exists a unique community of people with diverse characteristics who are linked by social ties, have common perspectives, engage in joint action and share experiences.<sup>16</sup> Organizations that do not consult stakeholders during planning and development processes often do not serve stakeholder needs and may even negatively impact the health and well-being of certain populations.<sup>17,18</sup> Marginalized populations, who often are of lower income, are frequently excluded from planning discussions and decision-making, leading to outcomes that do not address their needs and may even exacerbate inequities, such as displacement, pollution, crime and lack of access to opportunities and services.<sup>17,18</sup> Engaging diverse stakeholders from the onset creates the opportunity for collaborative dialogue among the key decisionmakers, planners and individuals who are likely to be impacted. To better support all people who are likely to be impacted, organizations should conduct a comprehensive evaluation of organizational diversity, as well as establish diversity, equity and inclusion (DEI) and non-discriminatory policies as initial steps. Additionally, identifying and assessing sources of stress within an organization through quantitative and/or qualitative measures can help an organization create a plan to relieve or modify those sources of stress and create a more supportive, healthier environment.

Employees are more likely to stay with their company longer when they feel valued and believe their voices are being heard.<sup>19</sup> Collecting stakeholder input can help an organization identify and address its essential goals for health promotion and incorporate a design that celebrates the organization or location's unique identity, meets the needs of all stakeholders and enriches the well-being of both regular occupants and visitors.<sup>17,20,21</sup> Without first asking for input, it is difficult to gauge which design, policy and programmatic approaches will most benefit the health and well-being of individuals who will utilize the space.<sup>22,23</sup>

Surveys are an established tool for understanding and evaluating people's perceptions of indoor environmental conditions and wellness policies, as well as their impact on personal health and well-being.<sup>24-26</sup> Utilizing surveys that incorporate a range of topics provides a data-driven, comprehensive picture of which interventions impact satisfaction.<sup>27-30</sup> Annual surveys are particularly effective, as decisionmakers can use the results to prioritize health- and productivity-promoting interventions, and then assess their impact in follow-up surveys.<sup>31</sup> Qualitative approaches, such as interviews and focus groups, help organizations collect additional in-depth information that may not be captured in other formats.<sup>32</sup> Whether through surveys, interviews, or other methods, organizations can use direct feedback to invest in employee experience and cultivate a healthier environment for all, thereby reducing turnover and absenteeism and increasing productivity, retention and engagement.<sup>19,33</sup>

## EE01 CREATE DEI ASSESSMENT AND ACTION PLAN | O (MAX: 1 PT)

**Intent:** Promote an equitable culture through the implementation and disclosure of DEI policies, protocols or programs.

**Summary:** This WELL feature requires the evaluation of the organization's diversity representation, creation of diversity, equity and inclusion (DEI) goals and implementation of DEI policies that support employees.

**Issue:** Global companies in the top quartile for racial and ethnic diversity or gender diversity are 35% or 15% more likely to have financial returns above their national industry medians, respectively.<sup>34</sup> Across the United States workforce, for every 1% rise in ethnic diversity, there is a 9% rise in sales revenue; for every 1% rise in gender diversity, there is a 3% rise in sales revenue.<sup>35</sup> Diversity extends beyond gender and race and also includes sexual orientation, ethnicity, age, socioeconomic background, disability, neurological development and more.<sup>36,37</sup> These additional factors can impact the workplace for individuals identifying with these characteristics. For example, 35% of LGBTQ+ employees in the United Kingdom hide that they are LGBTQ+ at work in fear of discrimination, and in industrialized countries, 50-70% of people with disabilities of working age are unemployed.<sup>38,39</sup>

**Solutions:** Organizations that take measurable actions to promote diversity and espouse fair, equitable and just treatment toward their workforce are more profitable and create a more positive culture.<sup>35</sup> These actions reduce employee stress and increase employee satisfaction and loyalty.<sup>35,40</sup> Completing a comprehensive evaluation of organizational diversity and establishing a DEI and non-discriminatory policy are the initial steps to advancing organizational diversity.

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project or organization meets the following requirements:

- a. A comprehensive evaluation of the project or organization's current diversity representation is conducted utilizing at least four of the following:
  1. Gender (assigned, identity and/or expression).
  2. Sexual orientation.
  3. Race and ethnicity.
  4. Age.
  5. Socioeconomic background.
  6. Disability.
  7. Other metric(s) as identified by the project or organization.
- b. A comprehensive diversity and inclusion policy is established and meets the following requirements:
  1. Connects DEI to the project or organization's goals and objectives, including through a health-oriented mission, considering at least the populations selected for requirement a.
  2. Establishes goals for improving DEI policies and outcomes and tracks progress toward meeting goals annually.
  3. A summary of the annual progress toward DEI goals are made widely available to all employees and the public.

## EE02 INCORPORATE INTEGRATIVE DESIGN | O (MAX: 1 PT)

**Intent:** Facilitate collaborative planning and implementation processes to advance well-being and sustainability goals.

**Summary:** This WELL feature requires the facilitation of inclusive and collaborative planning and orientation processes and establishment of a health-oriented project mission.

**Issue:** Organizations and project teams that do not consult stakeholders during planning and development processes often fail to serve stakeholder needs and may even negatively impact the health and well-being of certain populations.<sup>17,18</sup> In particular, low-income and minority populations are most often excluded from planning discussions and decision-making, leading to outcomes that do not address their needs and may even increase their exposure to a disproportionate burden of poor health conditions, displacement, pollution, crime and lack of access to opportunities and services.<sup>17,18</sup>

**Solutions:** Engaging diverse stakeholders from the onset of the planning process creates the opportunity for collaborative dialogue between the key decisionmakers, planners and individuals who will be impacted by the work. Collecting stakeholder input can help an organization or project team identify and address its essential goals for health promotion and incorporate design that best celebrates the organization or location's unique identity, culture and place.<sup>17,20,21</sup> This process helps organizations meet the needs of all stakeholders and enriches the well-being of both occupants and visitors.<sup>17,20,21</sup> Furthermore, when stakeholders are educated about potential health impacts at the beginning of the process, they will have greater opportunities to specify solutions (e.g., progressive policies, design interventions, product installations) that do less harm to people and the surrounding community. Establishing a health-centered mission and orienting stakeholders to how the work will adhere to that mission can help individuals remain engaged in the process and can empower all occupants to utilize health-promoting strategies once implemented.<sup>41</sup>

### Part 1 Facilitate Stakeholder Charrette (Max: 1 Pt)

*For All Spaces:*

Early in the planning process for the pursuit of a WELL designation, representatives from the organization or project team (e.g., leadership, human resources, project managers) facilitate a collaborative discussion that meets the following requirements:

- a. Includes representative key stakeholders including (as applicable):
  1. Owner.
  2. Facilities manager.
  3. Architects and engineers.
  4. Contractors.
  5. Employees or other occupants.
  6. Community members (if the project or organization has substantial impact on the surrounding community).
- b. Defines health and well-being goals, including:
  1. Occupant health and well-being needs.
  2. The project's or organization's objectives for health promotion to meet stakeholder needs.
- c. Defines environmental and equity goals, including how the project or organization will:<sup>17</sup>
  1. Reduce its contribution to global climate change and promote a greener economy.
  2. Protect, enhance and restore water resources and ecosystem services.
  3. Promote sustainable material cycles.
  4. Enhance community through social equity and environmental justice.

Tours of the space, communicating existing building operations, maintenance, programs and policies support adherence to WELL requirements, are conducted and made available to the following groups:

- a. All stakeholders in the development process, including (as applicable) the owner, manager, facilities management team, architects, engineers, existing employees, occupants, residents, contractors and community members.
- b. New employees during onboarding.

### Part 2 Promote a Health-Oriented Mission (Max: 0 Pt)

*For All Spaces:*

The project or organization establishes a health-oriented mission that meets the following requirements:

- a. Outlines the project's or organization's objectives for health promotion.<sup>41</sup>
- b. Includes a statement about supporting and improving occupant health.<sup>41</sup>
- c. Incorporates relevant organizational goals or strategies established during the stakeholder charrette.
- d. Is made available to all occupants.

## EE03 ADMINISTER BASIC SURVEY | O (MAX: 1 PT)

**Intent:** Evaluate the experience and self-reported health and well-being of individuals through surveys.

**Summary:** This WELL feature requires the use of third-party or custom surveys to collect feedback from occupants on their health, well-being and satisfaction with their environment, particularly on topics related to WELL strategies.

**Issue:** Without first asking for input, it is difficult to gauge which design, policy and programmatic approaches will most benefit the health and well-being individuals that will utilize the space.<sup>22,23</sup> Decisionmakers often experience things differently from other users of the space and human perception varies across cultures, places and people.<sup>22,42</sup> Employers often do not put methods in place to systematically gather input on the experience of their employees, thereby missing insights related to employee satisfaction with policies, the space and/or feelings of overall health.<sup>33,43,44</sup>

**Solutions:** Surveys are an established tool for understanding and evaluating people's perceptions of indoor environmental conditions and wellness policies, as well as their impact on personal health and well-being.<sup>24-26</sup> Scientifically validated surveys ensure that questions are framed appropriately and measure what they are intended to measure.<sup>45-48</sup> Employees are more likely to stay with their company longer when they feel valued and believe their voices are being heard.<sup>49</sup> Moreover, investing in the employee experience can reduce turnover and absenteeism and increase productivity, retention and engagement.<sup>19,33</sup> Surveys that ask occupants about their satisfaction with indoor environmental quality, amenities and policies help evaluate the effectiveness of existing health and wellness interventions, identify opportunities to create a healthier environment and offer organizations the opportunity for significant return on investment.<sup>31,44,48,49</sup>

### Part 1 Select Project Survey (Max: 1 Pt)

*For All Spaces:*

For projects with ten or more eligible employees, the following requirement is met:

- a. A survey is selected from a survey provider listed on [Reference](#).

OR-----

For projects with ten or more eligible employees, the following requirement is met:

- a. A survey is created that covers the topics listed in [Reference](#).

### Part 2 Administer Annual Survey and Report Results (Max: 0 Pt)

*For All Spaces:*

The project or organization meets the following requirements:

- a. All eligible employees are invited to participate in the survey annually. Regular reminders are sent to eligible employees to complete the survey.
- b. Survey protects all participant-identifying data through appropriate measures such as anonymous reporting and safe data storage. Any communication of results should be on an aggregated basis, such that no participant can be identified.
- c. Analysis of responses is conducted by a qualified survey professional.

The project or organization annually submits, through the platform, the following:

- a. Project and survey data, including:
  1. Total number of employees invited to complete the survey and number of employees who completed the survey.
  2. Date survey started and finished.
  3. Project location.
  4. Project type.
  5. Level of WELL Certification and/or WELL Ratings achieved (if applicable).
- b. Aggregated, anonymized survey results for each survey topic.

## EE04 UTILIZE ENHANCED SURVEY | O (MAX: 1 PT)

**Intent:** Build on minimum occupant survey requirements with enhanced and customized questions to more comprehensively evaluate and respond to occupant feedback about experience, health and well-being.

**Summary:** This WELL feature requires the administration of a more robust survey to collect and report on additional topics related to the health, well-being and satisfaction of individuals.

**Issue:** The physical environment plays an important role in a person's physical and mental health. It also can influence the relationships that people build with one another and with an employer or brand.<sup>50</sup> Without first asking for input, it is difficult to gauge which design, policy and programmatic approaches will most benefit the health and well-being individuals that will utilize the space.<sup>22,23</sup> An expanded survey better assesses how a space supports the physical, cognitive and emotional needs of the users. This more in-depth feedback helps organizations understand what needs to be addressed to not only reach higher levels of satisfaction but also help people thrive in the space.<sup>50</sup>

**Solutions:** Occupancy surveys measure the extent to which a building and organization promotes user health and comfort.<sup>24-26,29,51,52</sup> Specifically, scientifically validated surveys frame sensitive questions appropriately and measure what they are intended to measure.<sup>45,46</sup> Incorporating a range of survey topics, and utilizing surveys at a range of times, provides a comprehensive picture of which interventions impact satisfaction.<sup>27-30</sup>

### Part 1 Part 1 (Max: 1 Pt)

#### *For All Spaces:*

For projects with ten or more eligible employees, the following requirements are met:

- a. Achieve Feature EE3: Administer Basic Survey using a third-party survey provider.
- b. Address at least one of the topics listed in [Reference](#) through a minimum of three additional survey questions utilizing a pre-approved survey provider listed on [Reference](#).

The project or organization meets the following requirements:

- a. Based on survey results, investigate correlations, inferential statistics (such as multivariate analysis), or other analyses beyond descriptive statistics.
- b. Submit the following through the platform annually:
  1. Aggregated, anonymized survey results for the additional topics selected from [Reference](#) in WELL v2.
  2. Results of enhanced analysis.

## EE05 FACILITATE INTERVIEWS, FOCUS GROUPS, AND/OR OBSERVATIONS | O (MAX: 1 PT)

**Intent:** Evaluate the experience and self-reported health and well-being of individuals through interviews and observations.

**Summary:** This WELL feature requires utilization of interviews and observations to collect in-depth information on the health, well-being and satisfaction of individuals.

**Issue:** It is not common for employers to systematically or regularly gather input on the experience of their employees, such as understanding their satisfaction with policies, building design and maintenance.<sup>33,43,44</sup> Well-designed surveys offer a cost-effective and time efficient way to collect quantitative data, but they have limitations. To obtain a more comprehensive understanding of user satisfaction, it is recommended to complement surveys with qualitative methods of data collection.<sup>53</sup> For example, interviews and focus groups go beyond survey responses and utilize real-time observation as a means of collecting in-depth information about user experience.<sup>32</sup>

**Solutions:** Interviews and focus groups provide key insights not captured in surveys.<sup>54,55,56</sup> Further, results from interviews, focus groups and observation provide contextual information to inform successful surveys.<sup>57</sup> Stakeholders can use results to identify the highest priority interventions that can make spaces healthier and more productive.<sup>31</sup> Offering employees the opportunity to provide feedback can improve morale and retention, while also leading to insights that help create a healthier environment for all.<sup>44,58,59,60-63</sup>

### Part 1 Part 1 (Max: 1 Pt)

#### *For All Spaces:*

The project or organization annually conducts "evaluations" (defined here as stakeholder interviews, focus groups and/or observations) that meet the following requirements:

- a. Are conducted and analyzed by a professional experienced in qualitative research.
- b. Comprise a culturally representative sample of the population.
- c. Discuss the impact that the built environment and organizational initiatives have on occupant health and well-being.
- d. Protect participant privacy and identity.

The project or organization meets the following requirements:

- a. Compare results from the evaluations to the survey results, if applicable.
- b. Annually submit aggregated, anonymized results of the evaluations through the platform on the following:
  1. Comparison between the results of the evaluations and the survey results, as applicable.
  2. Total number of employees and number of employees who participated in the evaluations.
  3. Date the evaluations started and finished.
  4. Project location(s).
  5. Project type(s).
  6. Level of WELL achievement, if applicable.
  7. Sociodemographic information of participants (age and gender at a minimum).

## EE06 ADMINISTER BASELINE AND ANNUAL SURVEYS | O (MAX: 1 PT)

**Intent:** Benchmark improvements to occupant satisfaction by administering surveys at multiple points in time.

**Summary:** This WELL feature requires the collection and analysis of information from individuals on their health, well-being and satisfaction both before and after implementing health and well-being strategies.

**Issue:** Given the wide diversity in the design, operation and use of built spaces, it's difficult to gauge which design, policy and programmatic approaches will benefit the health and well-being of the most individuals in a space.<sup>22,23</sup> Conducting preliminary surveys provides feedback that points toward opportunities for improvement and helps identify which design strategies or policies could have the greatest impact.<sup>64</sup> Ongoing surveys have numerous benefits such as encouraging regular communication between stakeholders and supporting the continuous enhancement of health-promoting policies.<sup>65</sup> To ensure comparable results and measure success, the same survey should be completed before and after making improvements.<sup>66</sup> Despite the benefits of ongoing surveys, budgetary constraints can be a barrier that limits the reach of these methods, thereby widening the equity gap for access to healthy buildings.<sup>50</sup>

**Solutions:** Utilizing surveys that incorporate a range of topics provides a data-driven, comprehensive picture of which interventions impact satisfaction<sup>11,14,15</sup> Stakeholders can use results to prioritize interventions that can make spaces healthier and more productive.<sup>19</sup> Offering the opportunity to provide feedback, along with an action plan to address dissatisfaction, can improve employee morale and retention while creating a healthier environment for all.<sup>5,20,21,22-25</sup>

### Part 1 Conduct Baseline Surveys (Max: 1 Pt)

**Note:**

This feature requires projects to also meet Feature EE3: Administer Basic Survey.

#### *For All Spaces:*

For projects with ten or more eligible employees, the following requirement is met:

- a. Prior to achieving a WELL milestone, administer a survey for eligible employees using the same [Reference](#) that will be used for Feature EE3: Administer Basic Survey.

For projects with ten or more eligible employees, the following requirement is met:

- a. Compare results from the baseline survey against subsequent survey results.
- b. Submit aggregated, anonymized survey results through the platform on the following:
  1. Aggregated, anonymized results of the baseline survey.
  2. Comparison between the results of the baseline and annual surveys.
  3. Total number of employees invited to complete the survey and number of employees who completed the survey, each time it was administered.
  4. Date each survey started and finished.
  5. Location where each survey was administered.
  6. Project type.
  7. Level of WELL achievement, if applicable.
  8. Sociodemographic information (age and gender at a minimum).

**Note:** Additional baseline survey is not required at recertification.

### Part 2 Implement Action Plan (Max: 0 Pt)

#### *For All Spaces:*

The project or organization creates and implements a plan that addresses the following:

- a. Defines target satisfaction levels reported in the annual survey.

The project or organization submits on an annual basis:

- a. Comparison of satisfaction results to aspirational targets.
- b. Improvement strategies to be implemented, if applicable.

## EE07 DEVELOP STRESS MANAGEMENT PLAN | O (MAX: 1 PT)

**Intent:** Identify areas of employee stress within the organization and create a plan to manage it.

**Summary:** This WELL feature requires the assessment of sources of stress for individuals within the organization and creation of a plan for addressing them.

**Issue:** Stress is directly linked to seven of the ten leading causes of death in the world, and is related to numerous negative health consequences, including obesity, high cholesterol, muscle tension and backache, migraines and chronic headaches, as well as poorer recovery from illness.<sup>48,67-69</sup> Stress is also a predictor of adverse mental health outcomes, such as depression, anxiety, substance use, suicide, emotional exhaustion and burnout.<sup>68-70</sup> When stressed, individuals are less likely to engage in health-promoting behaviors, including smoking cessation, nutritious eating and physical activity.<sup>69</sup> Employee stress is incredibly common, with international studies reporting 94% of workers feel stress on the job and 25% reporting work as their number one stressor.<sup>69,71</sup> Stressed employees are more likely to quit, be involved in an accident and experience reduced performance. A study from the United States suggests stressed employees incur an estimated 46% higher health care expenditures compared to less-stressed peers.<sup>72</sup> Employees who experience stress are more likely to miss work, resulting in an estimated one million stress-related worker absences per day in the United States.<sup>73</sup>

**Solutions:** Numerous factors increase the likelihood of work-related stress, such as low support from supervisors and colleagues, little control over work processes, unmanageable and high demands on work output, concern over a lack of job security and low opportunity for advancement or professional development.<sup>69</sup> Stress and its associated risks can be reduced through interventions that solve for job stressors, such as improved operational policies, programs that increase co-worker and supervisor support and training modules that help employees develop resilience against job-related stress.<sup>68,70</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project or organization develops a stress management plan by completing the following:

- a. Assess at least three of the organization- or project-wide metrics below:
  1. Frequency of employees working more than 48 hours per seven-day period.<sup>74</sup>
  2. Frequency of absenteeism amongst employees (i.e., use of paid or unpaid time off due to disability or illness).
  3. Frequency of employees not using allocated paid time off.
  4. Frequency of performance issues amongst employees.
  5. Employee retention and turnover rates.
  6. Responses to employee satisfaction surveys that indicate high levels of stress or burnout.
- b. Identify opportunities for improvement, covering the topics below:
  1. Organizational change to address employee stress (e.g., adjustments to work environment, shifts in work processes, workload, management or staffing).<sup>70</sup>
  2. Employee participation in organizational decisions regarding work-related issues that may affect stress (e.g., work environment, processes, scheduling).<sup>70</sup>
- c. Create and implement a stress management plan that identifies the following:
  1. The person leading implementation of the plan.<sup>75</sup>
  2. The changes that are to be completed as part of the plan.<sup>75</sup>
  3. Who will be impacted by those changes.<sup>75</sup>
  4. When and how the changes will be implemented.<sup>75</sup>
  5. Confirmation of support from executive leadership.<sup>76</sup>

## APPENDIX C1:

The following topics must be covered by the custom survey selected for Option 2: Custom Survey in Feature C04 Part 1:

1. General building and occupancy information, including job type or time spent in the building.
2. Indoor environmental quality of air, water, light, sound and thermal comfort.
3. Ergonomics, layout and aesthetics.
4. Maintenance and cleanliness.
5. Amenities: access to nature, views and nourishment options.
6. Satisfaction with how policies and amenities impact and support healthy behaviors (e.g., physical activity, healthy eating).
7. Access to and engagement with workplace wellness initiatives or offerings (e.g., physical activity incentive programs, health benefits and services).
8. Employee support policies (e.g., paid parental and family leave, flexible working arrangements).
9. Productivity and engagement (e.g., through measures of hours worked or motivation).
10. Self-rated health and well-being.
11. Standard sociodemographic information (age and gender at minimum).

## APPENDIX C2:

Approved additional topics to add to the pre-approved survey in Part 1: Select Enhanced Survey in Feature C05: Enhanced Occupant Survey.

Category	Topic
Healthy Behaviors:	Mode of transportation to and from work and distance or time traveled
	Hydration
	Sleep satisfaction, quality and/or quantity
	Physical activity
	Alcohol consumption
	Healthy eating
	Ability to take restorative breaks
	Smoking habits
Enhanced Health and Well-being:	Sick building syndrome
	Mental health
	Social, cultural or economic well-being
	Musculoskeletal issues (e.g., back, neck pain)
	Health literacy
Performance and Resilience:	Assessment of individual work style, patterns, processes, space utilization and ability to focus or collaborate
	Workplace performance
	Engagement
	Workload, stress, burnout and/or employee resilience
	Creative thinking
Policies and Culture:	Safety and security, including for diverse population groups (e.g., cultural, ethnic, gender, ability, age)
	Emergency preparedness (e.g., pandemic, fire, natural disaster)
	Workplace wellness programs and perceived effectiveness
	Leadership investment in employee health and perceived effectiveness
	Social equity programs and perceived effectiveness
Other:	Comparison to previous space
	Values related to, level of access to and experience of nature
	Feedback on specific design interventions
	Healthy behaviors, ergonomics, mental health and productivity for remote workers
	Additional sociodemographic information (e.g., education, ethnicity, income)

## RESPONSIBLE HIRING AND LABOR PRACTICES (EH)

The Responsible Hiring and Labor Practices action area includes strategies that support a diverse and inclusive workforce.

Addressing organizational diversity is complex and touches upon most of an organization's operations, including hiring practices, determination of salary and wages and performance evaluations. Diversity includes gender identity, sexual orientation, race and ethnicity, age, socioeconomic background, disability, neurological development and other factors. There are numerous benefits to having diversity and representation across all levels of an organization, including improved employee satisfaction, teamwork and loyalty.<sup>35,40</sup> Additionally, greater diversity, particularly at the senior leadership level, has been shown to drive innovation and boosts performance.<sup>35</sup>

There is a lack of diversity at the executive level internationally, with women typically representing 21% or less and ethnic minorities representing 16% or less of these high-ranking positions.<sup>34</sup> In a 2016 study of 132 companies in the United States, only 55% identified racial diversity as a top priority.<sup>37,77</sup> Additionally, bias in both hiring and compensation practices creates systemic, ongoing barriers to cultivating diverse and inclusive organizations. Despite this, few companies use blind resume reviews, a strategy that has been shown to be effective in reducing hiring bias.<sup>37,77,78</sup> Globally, while nearly 70% of employed adults want to understand what fair pay is for their positions and skill sets, only about one third of companies disclose salaries internally, creating a major barrier to compensating people equitably.<sup>79</sup>

Addressing these issues, among other core aspects of organizational diversity, is complex and tied to many operational policies, including hiring practices, determination of salary and wages and performance evaluations. For example, wage transparency can build employee trust, and clearly communicating job requirements and establishing fair and consistent performance objectives can help build a productive work environment.<sup>80,81</sup> Employee resource groups (ERGs) have the potential to empower underrepresented populations and help all employees feel valued and accepted.<sup>82</sup>

Another critical aspect of cultivating a more equitable organization includes addressing the critical, yet often unaddressed, issue of modern slavery. Modern slavery refers to the various situations in which a person is recruited, transported or compelled to work through force, fraud or coercion.<sup>83,84</sup> Global reports estimate that a majority of modern slavery victims – nearly 30 million – reside in the Asia Pacific region, where many global supply chains originate.<sup>85–87</sup> Organizations seldom sufficiently assess modern slavery risks in their supply chains because supply chains often reach across sectors and regions. Regardless of complexity, organizations can take meaningful steps toward mitigating the risk of modern slavery by, for example, implementing a modern slavery action plan, adhering to a due diligence process that is designed to comprehensively detect risks in the supply chain, implementing ethical procurement policies, providing regular employee training and/or defining processes for incident reporting.<sup>88,89</sup>

## EH01 IMPLEMENT DEI SUPPORT SYSTEMS | O (MAX: 1 PT)

**Intent:** Promote an equitable culture through the implementation of support systems and leaders that champion diversity, equity and inclusion (DEI) policies.

**Summary:** This WELL feature requires the creation of reporting policies designed to protect employees and the employment of an executive whose role is dedicated to the organization's DEI strategy.

**Issue:** Internationally, 75% of organizations identify diversity as a priority, yet only 4% are succeeding in implementing successful DEI programming.<sup>90</sup> In a 2016 study of 132 companies in the United States, only 55% identified racial diversity as a top priority.<sup>37,77</sup> Beyond race and ethnicity, diversity also includes gender identity, sexual orientation, age, socioeconomic background, disability, neurological development and other factors. Systemic inequities result, in part, from a perceived lack of safety and fear of repercussion when reporting discrimination or abuse at work.<sup>91</sup> It is estimated that only 30% of employees in the United States who are harassed on the basis of protected classes (such as gender, race or disability) file internal complaints.<sup>92</sup> Other barriers to reporting include lack of anonymity, toxic company culture, inaccessible and inflexible reporting processes, and the unlikelihood of a positive outcome.<sup>91</sup> In the United States, between 2013 and 2016, just 15% of charges filed by LGBTQ+ individuals resulted in a positive outcome for the charging party.<sup>93</sup> Leadership must enforce DEI goals and policies in order for them to be successful. A global survey found that only 17% of organizations have allocated a C-Suite level executive to lead DEI initiatives.<sup>90</sup> Furthermore, there is a lack of diversity at the executive level worldwide, with women typically representing 21% or less and ethnic minorities representing 16% or less of these high-ranking positions.<sup>5</sup> Yet, greater diversity, particularly at the senior leadership level, has been shown to drive innovation and boosts organizational performance.<sup>35</sup>

**Solutions:** There are benefits to having DEI support and representation at all levels within an organization. Implementing employee resource groups (ERGs) and establishing diversity at the leadership level are actionable DEI strategies that can improve DEI outcomes as well as employee satisfaction, teamwork and loyalty.<sup>5,82</sup> ERGs have the potential to empower underrepresented populations and help employees feel valued and accepted.<sup>82</sup> For the LGBTQ+ population, ERGs may reduce prejudice and discrimination while creating a sense of community and identifying allies.<sup>94</sup> Furthermore, anonymous reporting improves psychological safety and removes barriers to speaking up.<sup>95</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project or organization meets the following requirements:

- a. Implements a comprehensive non-discrimination policy that includes the following:
  1. Reporting protocol that allows occupants to anonymously report observed or experienced discrimination, resulting in a review by a third party and/or internal human resource professional or other ethics or compliance professional with the offending individual to mitigate future incidents.
  2. Penalties for retaliating against or falsifying reports of bias.
- b. Annual trainings available to all employees that include the following topics:
  1. The benefits of diversity.
  2. Preventing, identifying and navigating observed or experienced discrimination.
  3. Preventing, identifying and reducing bias.
- c. Employee resource groups (ERGs) and/or sponsorship programs to support diverse populations (e.g., LGBTQ+ individuals, racial and ethnic minorities, individuals with disabilities, women, veterans) are made available in-house or through external organizations.
- d. Has at least one dedicated senior-level employee whose primary responsibility is to plan and oversee strategies that promote diversity and inclusion (e.g., Chief Diversity Officer). The individual must have a dedicated budget for diversity and inclusion initiatives and be employed at the executive (C-Suite) level or report directly to a member of the executive (C-Suite) team.<sup>96</sup>

## EH02 IMPLEMENT DEI HIRING PRACTICES AND WAGE EQUITY | O (MAX: 1 PT)

**Intent:** Promote a diverse and inclusive culture through equitable hiring, wage practices and organizational goals.

**Summary:** This WELL feature requires the establishment of equitable hiring and retention policies with a commitment to wage transparency and fair compensation.

**Issue:** Biases during hiring are a major barrier to organizational diversity. Discrimination may be enabled by applicants' names and other identifying factors that give clues to their gender, ethnicity and immigration status.<sup>97</sup> Additionally, only about one third of international companies disclose salaries internally.<sup>79</sup> Still, worldwide, nearly 70% of employed adults want more transparency about fair pay for their positions and skill sets in both their organization and the local market(s).<sup>79</sup> Globally, women earn only 77 cents for every dollar made by men and the wage gap is even greater for women of color, immigrant women and women with children.<sup>98</sup> On average in the United States, full-time LGBTQ+ employees earn only 90% of typical employee earnings.<sup>99</sup> Moreover, trans men earn only 70 cents and trans women earn only 60 cents for every dollar earned by a typical employee in the United States, and, in the United Kingdom, transgender individuals face a 14% wage gap.<sup>99,100</sup> The wage gap for people with disabilities in the United Kingdom can range from less than 10% to more than 55%, depending on the disability and intersectionality with gender, ethnicity and/or race.<sup>101</sup> Wage equity contributes to job satisfaction and, conversely, motivation decreases when an employee perceives that others are compensated more for doing less work.<sup>80</sup> Performance evaluations are another potential source of bias that create hurdles for career advancement. On average in the United States, only 55% of Black employees and 45% of Asian employees feel that their evaluations accurately reflect their work contributions.<sup>81</sup> However, in a survey of over 100 large organizations in the United States, 57% took no action to address bias in performance evaluations.<sup>102</sup>

**Solutions:** Addressing organizational diversity is complex and requires attention across many human resources functions including hiring practices, salary and wage determination and performance evaluations. Field studies from Europe, Australia and North America suggest blind resume reviews can prevent discrimination in early stages of recruitment.<sup>103</sup> Wage transparency can build employee trust, and clearly communicating job requirements and establishing fair and consistent performance objectives for all employees supports a productive work environment.<sup>80,81</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project or organization meets the following requirements:

- a. Implements a hiring policy that:
  1. Bans the request of salary history.
  2. Requires blind resume reviews (i.e., information is removed that could indicate race/ethnicity, gender and socioeconomic background, including, at minimum, name and home address).
  3. Establishes hiring evaluation protocols with equitable and transparent performance standards (e.g., communicating job requirements clearly and establishing fair and consistent performance objectives for all employees, demonstrating transparency and clear expectations for every role).
  4. Establishes diversity and inclusion hiring goals for which hiring managers are evaluated at performance reviews at least annually.
  5. Establishes annual goals for diversity representation in mid-and executive-level leadership positions and/or on the board of directors.
- b. Implements a wage equity policy that is made available to all employees and includes at least three of the following:
  1. Determination of wages independent of gender identity, sexual orientation, race and ethnicity, age, disability status, or religion.
  2. Provision of a living wage that meets basic needs and provides some discretionary income to all employees.
  3. Wage transparency (e.g., making employee compensation figures visible either internally, externally or both) or published salary ranges for all titles.<sup>104,105</sup> A blind annual evaluation of all employee wages to assess and improve wage equity.
  4. Annual trainings or workshops for employees on salary and contract negotiation.

## EH03 DISCLOSE AND EVALUATE RESPONSIBLE LABOR PRACTICES | O (MAX: 1 PT)

**Intent:** Promote organizational commitment to responsible labor practices and support human rights by addressing modern slavery in the supply chain.

**Summary:** This WELL feature requires the evaluation and disclosure of modern slavery labor practices in the organization's operations and supply chain, specifically in the areas of construction, cleaning and catering.

**Issue:** Modern slavery refers to the various situations in which a person is recruited, transported or compelled to work through force, fraud or coercion.<sup>83,84</sup> Modern slavery practices may include traditional slavery (or involuntary servitude), human trafficking, forced labor, bonded labor, sex trafficking and the worst forms of child labor.<sup>83,84</sup> The Global Slavery Index estimates that in 2016 there were over 40 million victims of modern slavery worldwide, including 24.9 million in forced labor.<sup>106</sup> Modern slavery is recognized as a violation of human rights, including the right to health, and as a global public health issue.<sup>107–110</sup> Modern slavery has severe consequences for the victim's health and well-being, including increased risk of physical injury; mental health issues like anxiety, depression and post-traumatic stress disorder (PTSD); exposure to infectious disease; suicide and limited access to healthcare.<sup>107–110</sup> Organizations seldom sufficiently assess modern slavery risks in their supply chains because supply chains often reach across sectors and regions. A study from the United Kingdom concluded that, despite the passing of the Modern Slavery Act in 2015, over 70% of companies believe that modern slavery is likely taking place at some point in their supply chains.<sup>111</sup>

**Solutions:** Organizations can play a critical role in helping to identify and prevent occurrences of modern slavery.<sup>89</sup> To address modern slavery in the supply chain, companies must first establish due diligence processes that comprehensively detect risks and influencing conditions.<sup>88</sup> The United Kingdom's Modern Slavery Act of 2015 requires companies to establish and disclose a risk assessment process, their anti-slavery policies and the steps taken to address identified risks.<sup>112</sup> The Australian Modern Slavery Act of 2018 similarly requires entities to publish an annual report on actions they have taken to address modern slavery in their operations and supply chains.<sup>113</sup> These acts help organizations progress toward the U.N. Sustainable Development Goal 8: Decent Work and Economic Growth, which calls for eradicating forced labor, modern slavery, human trafficking and child labor by 2025.<sup>114</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project or organization meets the following requirements:

- a. A comprehensive mapping of the project's or organization's structure, operations and supply chains is conducted annually for Tier 1 suppliers in the following sectors (as applicable):<sup>115</sup>
  1. Construction.
  2. Cleaning.
  3. Catering.
  4. Security.
  5. Maintenance.
- b. A risk assessment is conducted annually that evaluates risks in the project's or organization's operations and Tier 1 suppliers (at a minimum) in the above sectors for the following practices associated with modern slavery:<sup>115,116</sup>
  1. Worst forms of child labor.
  2. Forced labor.
  3. Traditional slavery.
  4. Bonded labor.
  5. Human trafficking.
- c. A report is completed annually that discloses the following information, is reviewed by executives in the C-Suite, board of directors and/or equivalent high-level stakeholders, and published on the project or organization's website:<sup>116</sup>
  1. Processes of evaluation and risk assessment.
  2. Results of evaluation or risk assessment, including where modern slavery risks have been identified.
  3. Statement of commitment (including established goals and policies) aimed at identifying, preventing and mitigating modern slavery practices in the project's or organization's operations and supply chain.

#### Note:

This feature is a beta strategy and has an additional documentation requirement (beta feature feedback form). The feedback form supports IWBI in developing new features that are effective and applicable to projects around the world.

## EH04 IMPLEMENT RESPONSIBLE LABOR PRACTICES | O (MAX: 2 PT)

**Intent:** Promote organizational commitment to responsible and transparent labor practices to address modern slavery in the supply chain and support human rights.

**Summary:** This WELL feature requires the addressing of modern slavery labor practices in the organization’s operations and supply chain, specifically in the areas of construction, cleaning and catering.

**Issue:** Global reports estimate that a majority of modern slavery victims – nearly 30 million – reside in the Asia Pacific region, through which many global supply chains pass.<sup>85–87</sup> Of the 195 countries in the world, only 40 have investigated labor exploitation in supply chains and almost half of all countries worldwide have yet to criminalize slavery.<sup>117,118</sup> Industries found to be at highest risk for modern slavery include clothing, electronics and technology manufacturing; food and agriculture (including catering); and construction.<sup>88,119</sup> The cleaning sector is also considered a high-risk environment given the complexity and opaque operations of the industry. In 2011, the Fair Work Ombudsman (FWO) reported that out of 315 Australian cleaning companies analyzed, 37.1% were non-compliant with responsible labor practices, including underpayment of wages and lack of recordkeeping.<sup>88,120</sup> Organizations seldom sufficiently assess modern slavery risks in their supply chains because supply chains often reach across sectors and regions. A study from the United Kingdom concluded that, despite the passing of the Modern Slavery Act in 2015, over 70% of companies believe that modern slavery is likely taking place at some point in their supply chains.<sup>111</sup>

**Solutions:** Organizations can implement action plans to prevent occurrences of modern slavery.<sup>89</sup> Best practices for action plans include the establishment of ethical procurement policies and processes for incident reporting, employee training on relevant policies, and engagement and collaboration with Tier 1 suppliers. In addition, leading-edge approaches include standalone modern slavery or human rights policies, deeper risk assessments into suppliers ranked Tier 2 through Tier 6, capacity-building with suppliers, strong remediation mechanisms and slavery-specific performance metrics.<sup>119,121</sup> Implementing these steps also supports progress toward U.N. Sustainable Development Goal 8: Decent Work and Economic Growth, which calls for eradicating forced labor, modern slavery, human trafficking and child labor by 2025.<sup>114</sup>

### Part 1 Part 1 (Max: 2 Pt)

*For All Spaces:*

The project or organization implements an action plan that meets the following requirements:<sup>115,116</sup>

- a. Establishes annual targets for the prevention and/or mitigation of modern slavery in their operations and supply chain in the following areas (as applicable):
  1. Construction.
  2. Cleaning.
  3. Catering.
  4. Security.
  5. Maintenance.
- b. Describes how the effectiveness of the implemented strategies are assessed annually and updates targets and/or strategies accordingly.<sup>115</sup>
- c. Addresses implementation of the following strategies to meet established targets:<sup>115,116</sup>
  1. Anti-slavery and anti-human trafficking policies.
  2. Responsible procurement policies.
  3. Annual trainings, mandatory for employees involved in procurement and made available to all employees, educating about the consequences of modern slavery and the project or organization’s policies and steps for preventing, identifying and reporting observed or potential incidences of modern slavery practices.
  4. Reporting protocol that allows employees and supply chain Tier 1 suppliers to anonymously report modern slavery risks and practices.
  5. Process for review and remediation of any identified modern slavery practices to prevent and mitigate future incidents.
  6. Process for consultation and revision of contracts, including establishing supplier obligations to address modern slavery, with any suppliers that have been identified as high risk for modern slavery practices.
- d. The requirements in a, b and c are met for supply chain Tiers according to the table below.

Feature Tier	Supplier Level	Point Value
1	Supply Chain Tier 1	1 point
2	At least Supply Chain Tiers 1 & 2	2 points

**Note:**

This feature is a beta strategy and has an additional documentation requirement (beta feature feedback form). The feedback form supports IWBI in developing new features that are effective and applicable to projects around the world.

## INCLUSIVE DESIGN (ED)

The Inclusive Design action area promotes design strategies that aim to support equitable and inclusive spaces.

Design plays a critical role in making spaces more accessible and equitable for people of all needs, abilities and identities.<sup>122</sup> More than one billion people, or about 15% of the global population, live with some type of disability and, among this population, nearly 200 million individuals experience difficulties functioning within the built environment.<sup>123,124</sup> Buildings host a vast array of individuals and communities, and yet despite the profound impact design can have on who is able to access, use and interact with a space, most environments are not designed with consideration of diverse individual needs or abilities.<sup>124,125</sup>

Spaces and places that are truly inclusive should go beyond the minimum required to comply with local code.<sup>126</sup> Universal design addresses multiple aspects of a built space, including the infrastructure, signage and technology within, and seeks to enhance the opportunity for all individuals to exist independently and comfortably in that space.<sup>126</sup> The ability for people to feel acoustically comfortable and comprehend speech is a fundamental consideration of universal design. Reduced or low speech intelligibility can negatively impact occupant satisfaction and well-being, especially for non-native speakers, individuals with hearing loss and people who are neurodiverse.<sup>127–135</sup> To improve acoustical comfort, each space should be designed specifically to accommodate its intended activity. Workspaces for concentration, collaboration, socialization and learning warrant specific design considerations.<sup>136,137</sup>

Additionally, electric light quality and glare control are vital considerations for improving the indoor environment for all. Prolonged exposure to bright or flickering lights can cause headaches, distraction and lost productivity, especially for people who are neurodiverse or light sensitive.<sup>138</sup> Negative health impacts may also come from exposure to glare (excessive brightness of the light source, excessive brightness-contrast and/or excessive quantity of light).<sup>139,140</sup> People with autism tend to experience greater discomfort from glare, especially at work.<sup>141</sup> Cultivating a comfortable, more inclusive and healthier space requires attention to lighting design, including the use of high quality fixtures that reduce glare and do not display signs of flicker.

Natural elements, such as plants and daylight, have been linked with multiple health promoting benefits, including helping to relieve occupants from stress and mental fatigue, as well as helping occupants establish a sense of place.<sup>142–144</sup> Biophilic soundscapes can support focus, stimulation and relaxation in people who are neurodiverse.<sup>145</sup> Establishing connection to place can also help uncover historical contributions by and celebrate the culture of marginalized communities, such as LGBTQ+ and communities of color.<sup>146,147</sup>

Another key aspect of inclusive spaces is the ability for individuals to adjust their environment to support physical comfort. Musculoskeletal disorders (MSDs) are among the top drivers of global disability and one of the most commonly reported causes of lost or restricted work time, absenteeism and low productivity.<sup>148,149</sup> A 2019 survey from the United Kingdom found that among workers who are neurodiverse, 87% felt that adjustments at work, including physical space, would enhance their work performance.<sup>150</sup> Adjustable workstations and ergonomic chairs also improve accessibility for individuals with mobility impairments and can better support pregnant women.<sup>151,152</sup> Moreover, comprehensive ergonomic programming can improve both quality of life and job performance for employees with disabilities.<sup>153</sup> Ideal ergonomic interventions are holistic and aim to accommodate all individuals. Ergonomic solutions should address the design of the physical environment (e.g., adjustable furniture), the work itself (e.g., process, practices) and human behavior (e.g., education, training).<sup>154,155</sup> Cultivating an ideal ergonomic workspace requires that all necessary tasks assigned to that space are considered, movement through a variety of positions is enabled and diverse body types are accommodated.

All humans need to access bathrooms, and bathrooms require specific accommodations to be considered inclusive. For example, many individuals lack access to bathrooms that accommodate their needs, such as women, caregivers and transgender or gender non-conforming individuals.<sup>156–159</sup> Bathrooms can be designed and furnished to support the needs of caregivers, children, individuals with physical and mental disabilities and people who menstruate.<sup>156,157</sup> Single-user facilities with gender-inclusive signage provide safe and comfortable bathrooms for individuals of all gender identities.<sup>160</sup>

Accessibility and inclusivity extend outside a building as well. For example, the site and neighborhood surrounding a building affects a person's physical activity opportunities and choices.<sup>161–165</sup> At a community scale, availability of sidewalks, parks and bicycle lanes also affect inclusivity.<sup>166,167</sup> Thoughtful site planning, design and selection positively impact physical activity and active living, and can improve nearly every aspect of community health and vitality from social well-being to economic development.<sup>168–170</sup>

## ED01 INTEGRATE ACCESSIBLE AND UNIVERSAL DESIGN | O (MAX: 1 PT)

**Intent:** Provide buildings and spaces that are accessible, comfortable and usable for people of all backgrounds and abilities.

**Summary:** This WELL feature requires going above and beyond accessibility laws and/or codes by integrating universal design principles that accommodate diverse needs and create a more inclusive environment.

**Issue:** More than one billion people, or about 15% of the global population, live with some type of disability.<sup>124</sup> Many places are not designed with consideration for people with disabilities and, among those living with a disability, nearly 200 million people experience difficulties functioning within buildings.<sup>123,124</sup> Older generations are more likely to experience a disability and, by 2050, the global population of individuals aged 60 years and older is expected to total 2 billion.<sup>171</sup>

**Solutions:** Spaces and places that are truly inclusive incorporate design strategies that go beyond what is required by code.<sup>126</sup> They deploy universal design elements that invite and empower a diverse range of individuals to access, use and find delight in the space.<sup>30</sup> Universal design addresses multiple aspects of a building, including its infrastructure, signage and technologies, and seeks to enhance the opportunity for all individuals to achieve independence and comfort.<sup>126</sup>

### Part 1 Part 1 (Max: 1 Pt)

#### *For All Spaces:*

The project considers best practices in universal design to accommodate a diverse range of disabilities and needs by implementing at a minimum one strategy in each of the following categories:<sup>172</sup>

- a. Physical access: entry, exit and key interaction points that enable inclusive entrance to the project and strategies that accommodate user changes as needed (e.g., stair-free entrances, step-free egress, operable windows, automatic doors), supporting ease and independence of use.<sup>124,126,173</sup>
- b. Developmental and intellectual health, including sensory requirements of people who are neurodiverse: strategies that use color, texture, images and other multi-sensory, visually perceptible information.<sup>124,173–175</sup>
- c. Wayfinding: strategies that help individuals intuitively navigate through the project (e.g., signage, tactile maps, symbols, auditory cues, information systems, images, color that considers color blindness, various languages).<sup>173,176</sup>
- d. Policies and programs: strategies that support inclusion and accommodate a diverse range of needs (e.g., diversity and inclusion training, flexible work hours for individuals with disabilities).<sup>124,126,173</sup>
- e. Technology: technology (e.g., audio and visual equipment, web access, QR codes) that helps individuals fully utilize a space (e.g., remote access to assist blind or deaf individuals, support for those who do not speak the native language), made available to all occupants at no cost.<sup>124,126,173</sup>
- f. Safety: strategies that support easy access to all spaces and amenities and minimize risk of injury, confusion or discomfort (e.g., lighting or clear sightlines to increase feelings of security, service animals, emergency egress plans with highlighted exit points).<sup>124,173,174</sup>

## ED02 PROVIDE BATHROOM ACCOMMODATIONS | O (MAX: 1 PT)

**Intent:** Ensure availability of bathrooms and support hygienic hand washing and toilet use practices for all individuals.

**Summary:** This WELL feature requires bathrooms that accommodate users with diverse needs.

**Issue:** Access to bathrooms can be challenging for some individuals due to their different needs.<sup>156,157,177</sup> For example, women often lack necessary bathroom accommodations due to an insufficient quantity and lack of sanitary materials.<sup>156,157</sup> Caregivers, small children and older adults frequently lack access to facilities that support their needs.<sup>156</sup> Family bathrooms can provide essential restroom access to these populations, as well as people with disabilities and individuals who are transgender.<sup>158,178</sup> Restricting bathroom access for transgender and gender non-conforming individuals can cause employees to avoid using restrooms at work and potentially lead to poor health outcomes including urinary tract infections and mental health issues.<sup>159,178</sup>

**Solutions:** Bathrooms can be designed and furnished to support hygiene, particularly for people who menstruate (e.g., by supplying hygiene products), caregivers of children, and individuals with physical and mental disabilities.<sup>156,157</sup> Single-user facilities with gender neutral signage make safe, comfortable bathrooms available for individuals of all gender identities.<sup>160,178</sup>

### Part 1 Provide Bathroom Accommodations (Max: 1 Pt)

*For All Spaces except Dwelling Units & Guest Rooms:*

The project meets the following requirements:

- a. All bathrooms include:
  1. Trash receptacles in stalls (in women's and single-user bathrooms). If toilet paper cannot be flushed down toilets, trash receptacles must be placed in all bathroom stalls such that they do not impede wheelchair/mobility aid access.
  2. Sanitary pads, tampons and/or other menstrual products at no cost or subsidized by at least 50% (in women's and single-user bathrooms).
  3. A hook, shelf or equivalent storage support in each toilet stall at wheelchair accessible height (122 cm|48 in or lower).
- b. All occupants have access to at least one bathroom per floor that provides a stall that can accommodate a wheelchair user and care attendant.
- c. All occupants have access to at least one bathroom that provides an infant changing table.
- d. All regular occupants may confidentially request a syringe drop box, which is made available at no cost in one or more bathrooms.<sup>179</sup>
- e. All single-user bathrooms (if present) are open to all individuals with accompanying signage.
- f. If present, floor drains are equipped with a self-primed liquid-seal trap or a waterless trap seal.<sup>180</sup>

For projects where the majority of occupants are visitors (e.g., shopping malls, airports, museums), family bathrooms are provided to meet expected demand by individuals in need of accompaniment or assistance in the bathroom (e.g., children, individuals with mental or physical disabilities) and contain the following amenities:<sup>156</sup>

- a. Changing table for infants.
- b. Children's toilet facilities or accommodations for child use of adult-size toilet.
- c. Children's sinks or accommodations for child use of adult-size sink (e.g., availability of stepstool).
- d. Motion sensor lights.
- e. Slip-resistant floors.
- f. Grab bars.
- g. At least one designated location for bags in each stall (e.g., hook, shelf separate from changing table and sink).
- h. Meets the room and stall dimensions required by local code for wheelchair accessibility.

### Part 2 Ensure Bathroom Accommodations (Max: 0 Pt)

*For All Spaces except Dwelling Units & Guest Rooms:*

All bathrooms meet the following requirements:

- a. Toilets are equipped with hands-free flushing.
- b. Contactless soap dispensers and hand-drying accommodations are provided.
- c. Users can exit the bathroom hands-free.
- d. Faucets meet the following:
  1. Sensor-activated.
  2. Equipped with a programmable line-purge system.
  3. If mixing is used, hot- and cold-water lines are mixed at the point of use.

## ED03 PROMOTE NATURE, PLACE AND CULTURE | O (MAX: 1 PT)

**Intent:** Support occupant well-being by incorporating the natural environment throughout the project and integrating design strategies that celebrate the project's unique identity.

**Summary:** This WELL feature requires the integration of nature throughout the space, as well as design that celebrates culture and place and inspires human delight.

**Issue:** Humans are increasingly living in environments where they have insufficient exposure to nature.<sup>181,182</sup> Natural elements, such as plants and daylight, have been linked with health promoting benefits, including decreased levels of depression and anxiety; increased attentional capacity; better recovery from job stress and illness; increased pain tolerance; and increased psychological well-being.<sup>142-144</sup> Biophilic soundscapes can support focus, stimulation and relaxation in people who are neurodivergent.<sup>145</sup> The incorporation of plants in the work environment is linked with improved employee morale, job satisfaction, objective and subjective measures of productivity and decreased absenteeism.<sup>143,183-185</sup> Finally, the presence of water, natural light and nature views can impact mood, memory and performance in the workplace.<sup>186-188</sup> A dose-response relationship has been found with exposure to nature indoors, with studies showing that as contact with nature during the workday increased, perceived job stress, subjective health complaints and sickness decreased.<sup>144,189,190</sup> Furthermore, establishing connection to place can uncover historical contributions by and celebrate the culture of marginalized communities, such as the LGBTQ+ and communities of color.<sup>146,147</sup> Design principles that may be especially important to Black communities include spirituality, heritage and uniting indoor and outdoor spaces.<sup>30,191</sup> Yet, in the United States, communities of color are three times more likely to live in nature-deprived areas as compared to white communities.<sup>192</sup>

**Solutions:** Incorporating natural elements into buildings can support occupant relief from stress and mental fatigue, as well as help establish a sense of place.<sup>193</sup> The benefits of nature can be accessed through numerous pathways such as direct (e.g., plants in the office), indirect (e.g., window views) or representational (e.g., photographs) solutions.<sup>143</sup> Further, incorporating other key aesthetic elements, such as local culture, materials and art can help celebrate the project's unique identity and further enrich the space for occupants and visitors.

### Part 1 Provide Connection to Nature (Max: 1 Pt)

*For All Spaces except Dwelling Units:*

The project integrates the following throughout the space, including common circulation routes, shared seating areas and rooms (e.g., conference rooms, common spaces) and workstations (as applicable):

- a. Natural materials, patterns, shapes, colors, images or sounds.<sup>186,194</sup>
- b. At least one of the following:
  1. Plants (e.g., potted plants, plant walls).<sup>186,194</sup>
  2. Water (e.g., fountain).<sup>186,194</sup>
  3. Nature views.<sup>186,194</sup>

### Part 2 Provide Connection to Place (Max: 0 Pt)

*For All Spaces except Dwelling Units:*

The project integrates design elements that address the following:

- a. Celebration of culture (e.g., culture of occupants, workplace, surrounding community).<sup>195</sup>
- b. Celebration of place (e.g., local architecture, materials, flora, artists).<sup>195</sup>
- c. Integration of art.<sup>195</sup>
- d. Human delight.<sup>195</sup>

## ED04 ENHANCE LIGHTING ENVIRONMENT | O (MAX: 1 PT)

**Intent:** Enhance visual comfort and minimize flicker in electric light.

**Summary:** This WELL feature requires projects reduce light flicker and glare to reduce adverse physical and neurological effects.

**Issue:** Electric light quality and glare control are vital to improving indoor environmental quality. Electric lighting can flicker at low frequencies in ways that are not present in daylight. Across all populations, flicker has been associated with eye strain, headaches, migraines and epileptic seizures.<sup>196-199</sup> Worldwide, in 2019, migraines accounted for over 10 million disability-adjusted life years (DALYs) in men and almost 17 million DALYs in women.<sup>200,201</sup> People who are neurodivergent may be overstimulated by light, as they can perceive a flicker and buzz from fluorescent lights that would be imperceptible to people who are neurotypical.<sup>175</sup> Glare, an integral part of lighting design, can also cause negative health impacts and is defined as excessive brightness of the light source, excessive brightness contrast and excessive quantity of light.<sup>139,140</sup> Glare control is particularly important for people with autism because this population exhibits greater discomfort caused by glare, especially at work, which may even result in the avoidance of buildings with high amounts of glare.<sup>141</sup> It is common for people with autism to wear sunglasses indoors to reduce the effects of bright lights and glare.<sup>202,203</sup> Reducing glare improves the visual experience of all occupants in the space. Glare has been associated with a host of health issues that range from visual discomfort and eye fatigue to headaches and migraines.<sup>139,204</sup> For people who are neurodivergent and light sensitive, prolonged exposure to bright or flickering lights can cause headaches, distraction and lost productivity.<sup>138</sup> Studies have also shown that glare can lead to visual impairment and discomfort, which can cause accidents in the workplace.<sup>205-207</sup> Individuals under the age of 50 are more sensitive to glare.<sup>208</sup> Since a substantial section of the workforce falls into this age group, it is important to address glare to avoid visual fatigue and glare-induced headaches.

**Solutions:** Identifying and utilizing lighting fixtures that emit a high quality of light and do not display signs of flicker contributes to a more comfortable and healthier space. Use and consideration of the type of luminaires and lighting layout can help to reduce glare.

### Part 1 Manage Flicker (Max: 1 Pt)

#### *For All Spaces:*

All luminaires (except decorative lights, emergency lights and other lighting for signage) and their controls within occupiable spaces meet at least one of the following requirements:

- a. Classified as "reduced flicker operation" per California Title 24, when tested according to the requirements in Joint Appendix JA-10.<sup>209</sup>
- b. Recommended practices 1, 2 or 3 as defined by IEEE standard 1789-2015 LED.<sup>210</sup>
- c.  $Pst\ LM \leq 1.0$  and  $SVM \leq 0.6$ .

### Part 2 Manage Glare from Electric Lighting (Max: 0 Pt)

#### *For All Spaces except Industrial:*

All luminaires within regularly occupied spaces (excluding wall wash fixtures, concealed fixtures and decorative fixtures installed as specified by the manufacturer) meet one of the following requirements when measured at light output representative of regular use conditions:

- a. 100% of light is emitted above the horizontal plane.
- b. Classified with Unified Glare Rating (UGR) of 16 or lower.
- c. Luminance that does not exceed 6,000  $cd/m^2$  at any angle between 45 and 90 degrees from nadir.

OR-----

All regularly occupied spaces meet the following requirement:

- a. Unified Glare Rating (UGR) of 16 or lower.

#### *For Industrial:*

All luminaires within regularly occupied spaces (excluding wall wash fixtures, concealed fixtures and decorative fixtures installed as specified by the manufacturer) meet one of the following requirements when measured at light output representative of regular use conditions:

- a. 100% of light is emitted above the horizontal plane.
- b. Classified with Unified Glare Rating (UGR) of 16 or lower.
- c. Luminance that does not exceed 6,000  $cd/m^2$  at any angle between 45 and 90 degrees from nadir.

OR-----

All regularly occupied spaces meet the following requirement:

- a. Unified Glare Rating (UGR) of 19 or lower.

## ED05 PROVIDE ERGONOMIC WORKSTATION DESIGN AND CONTROL | O (MAX: 1 PT)

**Intent:** Reduce the risk of physical strain on the body through ergonomic design at workstations that support neutral body positions for seated and standing work and provide opportunities to alternate between seated and standing positions.

**Summary:** This WELL feature requires ergonomic workstation furnishings to accommodate all users and user orientation to workstations covering ergonomic workstation design and adjustability features.

**Issue:** In 2016, musculoskeletal disorders (MSDs) ranked among the top drivers of global disability.<sup>213,214</sup> MSDs are one of the most commonly reported causes of lost or restricted work time and also contribute to absenteeism and low productivity.<sup>148,149</sup> Risk factors in the workplace vary by the type of tasks being performed. In environments where manual labor is performed, risk factors include heavy lifting, bending, reaching overhead and pushing or pulling heavy objects.<sup>149</sup> In office settings, risk factors are different but no less prevalent; they include workstation design that forces the body into awkward positions along with other occupational factors that expose the body to prolonged or repetitive tasks.<sup>155</sup> In a 2019 survey from the United Kingdom, 87% of workers who are neurodivergent felt that adjustments at work would enhance their work performance.<sup>150</sup> The survey participants identified adjustments to physical space and equipment that increase accessibility as priorities.<sup>150</sup> Adjustable workstations and ergonomic chairs also improve accessibility for individuals with mobility impairments and can better support pregnant women.<sup>151,152</sup>

**Solutions:** An ideal ergonomic work environment is conducive to the necessary breadth of tasks assigned to that space while encouraging movement through a variety of positions throughout the day. Effective ergonomic interventions to accommodate all users include both design (e.g., adjustable furniture) and programmatic (e.g., education) approaches.<sup>215,216</sup> Ergonomic design solutions facilitate customizability at workstations, which allow users to better fit the space to their needs. Studies have demonstrated a return on investment (ROI) for ergonomic interventions. One study from the United States found a return of \$10 USD for every \$1 USD invested.<sup>217</sup> A second study conducted in the United States that examined the outcomes across 250 case studies, found generally positive results, including a reduction in the number (49.5% across 37 studies) and cost (64.8% across 22 studies) of work-related MSDs and also noted that the payback period was generally less than one year.<sup>218</sup>

### Part 1 Support Visual Ergonomics (Max: 1 Pt)

*For Office Spaces:*

The project meets the following requirements:

- a. Workstations where desktop computers are used provide support for user adjustability (monitor height, viewing angle, horizontal distance) through one of the following:
  1. Monitors with built-in height and angle adjustment.<sup>219,220</sup>
  2. Monitor stands or arms that allow height, angle and horizontal adjustment.<sup>219,220</sup>
- b. Workstations where laptops are primarily used provide support for user adjustability through at least one of the following:
  1. An external keyboard, mouse and laptop stand such that the laptop screen can be positioned by the user (screen height, viewing angle, horizontal distance).<sup>220</sup>
  2. An external monitor that meets requirement a.<sup>220</sup>

### Part 2 Provide Height-Adjustable Work Surfaces (Max: 0 Pt)

*For Office Spaces:*

At least 25% of all workstations can be adjusted by the user for both seated and standing work, through one of the following:

- a. Manual or electric height-adjustable work surfaces that provide users with the ability to customize workstation height at both seated and standing positions.<sup>219,220</sup>
- b. Supplemental solutions (e.g., stand) that allow all or part of the work surface, monitor and primary input devices (e.g., keyboard, mouse) to be raised or lowered to seated or standing heights.<sup>219,220</sup>

### Part 3 Provide Chair Adjustability (Max: 0 Pt)

*For Office Spaces:*

All seating at workstations meets the following requirements:

- a. The seat height is adjustable.<sup>219,220</sup>
- b. One of the following:<sup>219</sup>
  1. The seat pan depth is adjustable.
  2. The seat pan depth is 43 cm [16.9 in] or less.
- c. One of the following:
  1. The backrest and lumbar support is height adjustable.<sup>219,220</sup>
  2. The backrest angle is adjustable.<sup>219,220</sup>
  3. The armrest height and distance between armrests are adjustable.<sup>219,220</sup>

### Part 4 Provide Support at Standing Workstations (Max: 0 Pt)

*For All Spaces except Commercial Kitchen Spaces:*

All workstations in which users are regularly required to stand for 50% or more of their working hours (e.g., assembly line station, hotel check-in counter, supermarket check-out counter) incorporate at least two of the following:

- a. Anti-fatigue mats, impact reducing flooring or a similar strategy.<sup>221</sup>
- b. Recessed toe space of at least {(well-unit)}4 in [10 cm{(well-unit)} depth and height.<sup>222</sup>
- c. A footrest or footrail.<sup>221,223</sup>
- d. A leaning chair.<sup>221,223</sup>

OR-----

The project meets the following requirement:

- a. There are no workstations at which users are regularly required to stand for 50% or more of their working hours.

### Part 5 Provide Workstation Orientation (Max: 0 Pt)

*For All Spaces:*

The project meets the following requirement:

- a. All eligible employees receive an orientation (e.g., in-person training, interactive education, video or smartphone-based education with competency verification) to workstations in the space covering, at a minimum, the following:
  1. Ergonomic and adjustability features of a given workstation and their benefits.

2. Demonstration on how to make adjustments based on individual needs.
3. Available resources that can be used for future reference and where to access them.

## ED06 PROVIDE ENHANCED ERGONOMICS | O (MAX: 1 PT)

**Intent:** Enhance well-being and comfort through comprehensive ergonomics programming.

**Summary:** This WELL feature requires policies that provide ergonomic support and programming for employees working in the project location and remotely.

**Issue:** Ergonomic issues arise in many spaces, including schools, industrial settings and commercial offices. These issues are unique to each industry and context, each presenting distinctive risks and requiring different considerations.<sup>224</sup> Worldwide, in 2019, ergonomic risk factors were responsible for more than 15 million disability-adjusted life years (DALYs).<sup>225</sup> In a 2019 survey from the United Kingdom, 87% of workers who are neurodivergent felt that adjustments at work would enhance their work performance.<sup>150</sup> Participants reported that increasing accessibility through modifications to the physical space and equipment were among the most preferred solutions.<sup>150</sup> Adjustable workstations and ergonomic chairs improve accessibility for individuals with mobility impairments and pregnant women.<sup>151,152</sup> Moreover, comprehensive ergonomic programming can increase ability and overall quality of life for employees with physical disabilities.<sup>153</sup>

**Solutions:** Ergonomic interventions aim to accommodate all individuals and, through a holistic approach, can address the design of the physical environment (e.g., adjustable furniture), the work itself (e.g., process, practices) and behavior (e.g., education, training).<sup>154,155</sup> Ergonomic interventions have been shown to have a positive impact and a substantial return on investment (ROI). One study from the United States found that after implementing a large-scale ergonomics intervention, claims over a 5-year period were reduced by 45% and researchers determined an ROI of 10:1 for the program.<sup>217</sup> In this study, ROI calculations considered the compensation costs per claim, the number of preventive ergonomic evaluations performed and the annual cost of the program.<sup>217</sup> Another study conducted in the United States that examined the outcomes of 250 case studies across a variety of sectors, including healthcare, offices, manufacturing facilities and other industries, found generally positive results and noted that the payback period for an investment in ergonomics was generally less than one year.<sup>218</sup>

### Part 1 Implement an Ergonomics Program (Max: 1 Pt)

*For All Spaces:*

The project or organization meets at least one of the following requirements:

- a. Engages with a qualified professional ergonomist (which may be a consultant, contractor or other third-party).
- b. Has at least one qualified professional ergonomist on staff whose responsibilities include ergonomic programming, as defined in their job description and/or performance expectations.

The project or organization has an ergonomics program that includes the following:

- a. Annual consultation with key stakeholders (e.g., human resources, workplace wellness, occupational safety, leadership, employees) who are involved in the design, implementation and evaluation of the ergonomics program.
- b. A task analyses performed by a qualified professional ergonomist to identify the job-related tasks that are performed by occupants in the space.
- c. Accommodations for eligible employees to receive individual ergonomic assessments in the form of a self-assessment (e.g., reputable, third-party app), in-person assessment (e.g., at the workplace or home) or a virtual assessment (e.g., live video conference). Assessments are offered to employees at least annually and, as applicable, during or after the following events:
  1. Employee on-boarding.
  2. Substantial equipment changes (e.g., purchase of a new chair) or workstation redesign.
  3. Change in health status (e.g., injury, presentation of symptoms of musculoskeletal issues, visual strain).
  4. Change in work environment (e.g., transition to or from full-time remote work).
- d. Ergonomic trainings (e.g., workshop, seminar, classes) delivered by a qualified professional ergonomist to employees at least annually.

### Part 2 Support Remote Work Ergonomics (Max: 0 Pt)

*For All Spaces:*

For organizations with employees who regularly work remotely, the organization tailors the ergonomic program addressed in Part 1 in the following ways:

- a. For individual assessments, accommodations are made to include remote workers (e.g., virtual assessments).
- b. The organization provides ergonomic equipment to support the individual needs of remote workers through direct-purchases, reimbursement or subsidies.

**Note:**

This feature is a beta strategy and has an additional documentation requirement (beta feature feedback form). The feedback form supports IWBI in developing new features that are effective and applicable to projects around the world.

## ED07 IMPLEMENT ACOUSTIC WORK ZONE CONTROL | O (MAX: 1 PT)

**Intent:** Implement strategies to minimize issues of acoustic disturbance from a variety of sources and improve speech intelligibility and accessibility by providing dedicated, high-performance audio technology.

**Summary:** This WELL feature requires acoustical zoning plans and workplace policies to manage noise, privacy and comfort.

**Issue:** Design trends, such as open workspaces, lightweight construction and exposed ceilings and mechanical equipment, can exacerbate noise disturbances and acoustical discomfort.<sup>226–229</sup> When noise from internal or external sources increases, occupants have been found to be easily distracted, less productive and susceptible to burnout.<sup>230–234</sup> People who are neurodivergent can be hypersensitive to sound, causing more severe impacts to concentration and overall performance.<sup>235–237</sup> Privacy and collaboration are both important in the workplace, and people who are neurodiverse may prefer a combination of work environments that support both work styles.<sup>233,238,239</sup> In one study from the United Kingdom, 99% of employees reported that their concentration was impaired by poor acoustics in the workplace.<sup>232</sup> Similar challenges are reported in workplaces worldwide.<sup>24,230,233,240,241</sup> One report suggests that office workers are less likely to help others when in high noise conditions, reducing collaboration in the workplace.<sup>231</sup> The ability for people to comprehend speech is a fundamental consideration of universal design. Reduced or low speech intelligibility can negatively impact occupant satisfaction and well-being, especially for non-native speakers, individuals with hearing loss or neurodiverse populations.<sup>127–135</sup> Additionally, increased sound levels can impact task performance, resulting in a higher risk of misunderstanding, operational errors and accidents.<sup>242</sup> Improving speech intelligibility can support classroom participation for students who are hard-of-hearing.<sup>243</sup> A supportive classroom environment is associated with increased quality of life, social engagement and mental health.<sup>243</sup>

**Solutions:** To support acoustical comfort, spaces should incorporate acoustical design strategies that enable their intended uses.<sup>136</sup> For example, a typical workplace may need to accommodate various design strategies to address four different use types: concentration, collaboration, socialization and learning.<sup>137</sup> When planning for acoustical comfort, it is important to consider proximities and adjacencies, since noise from social or collaborative zones could transfer to zones intended for concentration or learning.<sup>137,244</sup> Each zone can be labeled as loud, quiet or mixed to indicate its associated acoustical impact on surrounding zones. Any facility that incorporates spaces for socialization or recreation in addition to areas for task-centric work or learning can utilize this zoning approach.<sup>137</sup> Policies that give occupants choice in their environment can provide further benefits. For example, employees with autism may benefit from flexible work arrangements because they can better control their physical environment when working from home; when in the office, accommodations such as noise-canceling headphones or privacy rooms can be helpful.<sup>245,246</sup> A well-designed and properly implemented audio system can improve speech intelligibility in various environments. Common solutions include teleconferencing equipment in offices.<sup>247,248</sup> To meet diverse occupant needs, create more accessible spaces and provide the best possible outcomes for users, systems should be commissioned by a professional audio engineer.<sup>249,250</sup>

### Part 1 Label Acoustic Zones (Max: 1 Pt)

*For All Spaces:*

The project provides the following:

- a. A floor plan or other design document showing the following acoustic zones throughout the project:
  1. Loud zone: includes areas intended for loud equipment or activities (e.g., mechanical rooms, AV/IT closets, kitchens, fitness rooms, social spaces, recreational rooms, music rooms).
  2. Quiet zone: includes areas intended for concentration, wellness, rest, study and/or privacy (e.g., restorative spaces, lactation rooms, nap rooms).
  3. Mixed zone: includes areas intended for learning, collaboration and/or presentation (e.g., auditoriums, classrooms, breakout spaces).
  4. Circulation zone: includes occupiable areas not intended for regular occupancy (e.g., hallways, egress, atria, stairs, lobbies).
  5. Not applicable zones: includes other areas without significant sources of sound (e.g., storage rooms, janitor rooms, coat closets) that are not regularly occupied.
- b. A plan for reprogramming or mitigating sound transmission between loud zones that border quiet zones (if any).

### Part 2 Prioritize Audio Devices and Policies (Max: 0 Pt)

*For All Spaces:*

The project or organization supports individual acoustical needs through policies that meet at least three of the following requirements:

- a. All audio devices are managed internally by a qualified professional (e.g., IT professional, mobile device manager) and expectations for use are covered in the employee handbook and/or during on-boarding of new staff.<sup>251,252</sup>
- b. Eligible employees can request alternative working arrangements to accommodate their individual acoustic comfort needs (e.g., option to work remotely, different workstation location).<sup>253,254</sup>
- c. Signage is used to indicate both the location and intended activities of the quiet and mixed zones. A minimum of one daily quiet hour is scheduled.<sup>255</sup>
- d. Eligible employees and distance learners (as applicable) are provided speech-enhancing telecommunication and AV accessories (e.g., active digital signal processing, noise-cancellation) upon request and at no cost or subsidized at least 50%.<sup>256</sup>

## ED08 ENHANCE SPEECH INTELLIGIBILITY | O (MAX: 1 PT)

**Intent:** Improve speech intelligibility and accessibility by providing dedicated, high-performance audio technology.

**Summary:** This WELL feature requires communication strategies and technology to support enhanced speech intelligibility and accessibility.

**Issue:** The ability for people to comprehend speech is a fundamental consideration of universal design. Reduced or low speech intelligibility can negatively impact occupant satisfaction and well-being, especially for non-native speakers, individuals with hearing loss or neurodiverse populations.<sup>127–135</sup> For individuals with autism, auditory processing impairments seem to be more severe for speech versus non-speech stimuli.<sup>257</sup> In noisy environments, people with autism who also may have severe language deficits have greater difficulty filtering unimportant sounds from speech.<sup>258</sup> When installed and used incorrectly, audio communication equipment can actually decrease speech comprehension.<sup>127,131,259–262</sup> Additionally, increased sound levels can impact task performance, resulting in a higher risk of misunderstanding, operational errors and accidents.<sup>242</sup> In educational settings, teachers who increase vocal effort to overcome poor intelligibility experience more vocal strain, decreased job performance, lower quality of life, as well as higher rates of absence, extended leave and resignation.<sup>263–268</sup> Improving speech intelligibility can support classroom participation for students who are hard-of-hearing, which can improve quality of life, social engagement and mental health.<sup>243</sup>

**Solutions:** A well-designed and properly implemented audio system can improve speech intelligibility in various environments. These solutions include speech reinforcement systems in classrooms and public address systems.<sup>247,248</sup> To meet diverse occupant needs, create more accessible spaces and provide the best possible outcomes for users, systems should be commissioned by a professional audio engineer.<sup>249,250,269</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project meets the following requirements, as applicable:

- a. All rooms that are intended for conferencing, distance learning, or hybrid collaboration contain a combination of microphones, speakers, cameras and supportive audio components (e.g., amplifiers, digital signal processors) that are commissioned by a professional audio engineer.
- b. All public address systems used on a daily basis meet the following:
  1. Commissioned by a professional audio engineer in accordance with NFPA 72 (Annex D), BS 5839 Part 8, ISO 7240 Parts 16 and 19 or equivalent.<sup>270</sup>
  2. Achieves a minimum STI 0.50 or CIS 0.75 in at least 50% of regularly occupied acoustically distinguishable spaces (ADS) when measured in accordance with IEC 60268-16 or equivalent and as indicated in a commissioning report, acoustical model or similar.<sup>271</sup>
- c. Speech reinforcement systems are installed in at least 80% of classrooms and all spaces for large presentations (e.g., lecture hall, conference center) and meet the following:
  1. Designed to meet audio distribution requirements in accordance with ANSI/ASA S12.60 Part 1.<sup>272,273</sup>
  2. Commissioned by a professional acoustician or audio engineer in accordance with ANSI/INFOCOMM A102.01:2017 or equivalent.

## ED09 PROVIDE WORKPLACE THERMAL AND LIGHTING CONTROL | O (MAX: 1 PT)

**Intent:** Provide individuals with the ability to personalize their environment for comfort by making adjustments to thermal and lighting parameters.

**Summary:** This WELL feature requires pathways for occupants to adjust their personal thermal and lighting environment.

**Issue:** People spend about 90% of their time indoors and the conditions of indoor environments can have an impact on well-being and productivity.<sup>274</sup> Thermal comfort perceptions are highly variable amongst individuals, so not everyone will be equally comfortable under the same environmental conditions. This may result from differences in factors such as age, sex, health condition, personal thermal adaptation and thermal history, including climatological origin.<sup>275–278</sup> Personal temperament and preferences, social and cultural norms and seasonal variation can also play a role in comfort satisfaction levels.<sup>279,280</sup> In addition, interior lighting may impact mood and cognitive performance.<sup>281,282</sup> Customizable lighting has been shown to improve satisfaction levels.<sup>283</sup>

**Solutions:** Individual personalization devices allow people to be more in control of their own sensations and comfort levels.<sup>284–286</sup> Individual thermal control allows for a broader range of acceptability limits for parameters in the thermal environment, including air temperature ranges, which is linked to greater energy savings potential.<sup>287–289</sup> For example, during warmer months, ambient temperature can be kept at a higher setpoint when individuals can accommodate for their own cooling preferences with localized fans.<sup>290,291</sup> Developing a lighting environment that not only seeks to satisfy visual acuity and circadian needs but also addresses comfort preferences through customization helps to improve individual productivity, mood and well-being.<sup>281,282</sup> Supplemental luminaires (such as task lighting) support customization and controllability of light sources. Creating zones with lighting conditions that are distinct from the lighting in regular workspaces can create a comfortable and informal environment that individuals can utilize for social interaction.<sup>281,292</sup>

### Part 1 Provide Personal Cooling Options (Max: 1 Pt)

*For All Spaces except Dwelling Units:*

The project provides all regular occupants with the ability to cool their individual environment through at least one of the following:<sup>293</sup>

- A user-adjustable thermostat, which controls the environment for no more than one person and is connected to the building's mechanical cooling system or a more localized air conditioning unit.
- Desk fan or ceiling fan that does not increase air speed for other occupants.
- Chair with mechanical cooling system.
- Any other solution capable of affecting a PMV change of -0.5 within 15 minutes from activation, without changing the PMV for other occupants.

### Part 2 Provide Personal Heating Options (Max: 0 Pt)

*For All Spaces except Commercial Kitchen Spaces & Dwelling Units:*

The project provides all regular occupants with the ability to warm their individual environment through at least one of the following:<sup>293</sup>

- A user-adjustable thermostat, which controls the environment for no more than one person and is connected to the building's mechanical heating system.
- Electric parabolic space heater.
- Electric heated chair or footwarmers.
- Personal or shared blankets. Shared blankets are washed or disinfected at least weekly after use.
- Any other solution capable of affecting a PMV change of +0.5 within 15 minutes from activation, without changing PMV for other occupants.

### Part 3 Provide Supplemental Lighting (Max: 0 Pt)

*For All Spaces except Dwelling Units & Guest Rooms:*

The project meets the following requirements:

- Supplemental light fixtures (e.g., task lights) are provided upon request to all employees at no cost and requests are fulfilled within eight weeks.
- At least one supplemental light fixture is available for trial purposes.

Supplemental light fixtures meet the following requirements:

- Light levels are controllable by occupants, independently from the ambient lighting system.
- The location of the light is adjustable by users of the workstation.
- Under intended use, the light-emitting element is not visible to users.

## ED10 SUPPORT MOVEMENT THROUGH SITE PLANNING | O (MAX: 1 PT)

**Intent:** Promote movement, physical activity and active living through site design and nearby amenities that facilitate walkability.

**Summary:** This WELL feature requires walkability, access to pedestrian-friendly amenities and mass transit.

**Issue:** Over time, nearly every aspect of our built environment has been designed to invite less movement, giving preference to sedentary activities such as sitting and driving.<sup>294</sup> A person's opportunity to engage in physical activity is influenced by the design of interiors, as well as neighborhood and site-level factors.<sup>161-165</sup> At a community scale, the availability of sidewalks, parks and bicycle lanes affects a person's ability to be active.<sup>166,167</sup> Access to walkable communities is inequitable: marginalized populations in cities around the world are less likely to live in walkable environments, which can limit physical activity, makes it more difficult to travel to work and increases the possibility of injury or death.<sup>295,296</sup> In the United States, mass transit is more likely to be relied upon by people of color and people who are physically disabled.<sup>295,297</sup>

**Solutions:** Thoughtful site planning positively impacts physical activity and active living, and improves nearly every aspect of community health and vitality from social well-being to economic development.<sup>168-170</sup> There is no single metric or recipe that defines a walkable community, as it is influenced by several core design themes: proximity, connectivity, density, safety and aesthetics.<sup>298</sup> Walkable communities consider the needs of a diverse population with varying abilities and are designed to facilitate mobility across a person's lifespan. Communities can be evaluated at different scales, from the street to the building. Single buildings can make important contributions to the streetscape, activating walkways for pedestrians through pleasing aesthetics on their first story/level.<sup>299,300</sup>

### Part 1 Select Sites with Pedestrian-friendly Streets (Max: 1 Pt)

*For All Spaces:*

At least one functional building entrance opens to a pedestrian network (i.e., streets where pedestrians travel featuring, at a minimum, sidewalks) and meets at least one of the following requirements:

- a. The project's address achieves a minimum Walk Score® of 70. Projects located outside of the US and Canada are not eligible to pursue this requirement.<sup>301</sup>
- b. Opens onto a street with restricted vehicular traffic.<sup>302</sup>
- c. Within a  $0.25 \text{ mi} | 400 \text{ m}$  distance of the project boundary, 90% of the total street length has continuous sidewalks on both sides and two of the following are met:
  1. At least eight existing use types (as defined in Reference in WELL v2) are present.<sup>303,304</sup>
  2. Speed limits of  $25 \text{ mph} | 40 \text{ kmh}$  or less and street has buffer protections along sidewalks (e.g., curb extension, bioswales, bike lane, parked cars, benches, trees, planters).<sup>305-307</sup>
  3. Street segments intersect one another (excluding alleys) at least every  $260-330 \text{ ft} | 80-100 \text{ m}$ .<sup>305,305</sup>

Exterior building walls facing the pedestrian network incorporate one or more of the following on the first floor or first  $18 \text{ vertical feet} | 5.5 \text{ vertical m}$  (whichever is less):

- a. Windows or glazing that provide transparency into the space.<sup>305,308,309</sup>
- b. Overhangs such as canopies, awnings, eaves or shades.<sup>305,308,309</sup>
- c. Murals or other artistic installations.<sup>305,308,309</sup>
- d. Biophilic design elements (e.g., plants, water features, nature patterns, natural building materials).<sup>305,308,309</sup>
- e. Mixed building textures, colors and/or other design elements.<sup>305,308,309</sup>

**Note:**

Interiors projects may count base building amenities toward feature requirements.

### Part 2 Select Sites with Access to Mass Transit (Max: 0 Pt)

*For All Spaces:*

The project meets at least one of the following requirements:

- a. Is located in an area (zip or postal code) with a minimum Transit Score® of 70.<sup>310</sup>
- b. Is located within a  $650 \text{ ft} | 200 \text{ m}$  walk distance of an existing bus network that provides at least 72 weekday trips and 30 weekend trips.<sup>310</sup>
- c. Is located within a  $0.25 \text{ mi} | 400 \text{ m}$  walk distance of existing bus rapid transit stops, light or heavy rail stations, commuter rail stations or ferry services that provide at least 72 weekday trips and 30 weekend trips.<sup>310</sup>

## HEALTH BENEFITS AND SERVICES (EB)

The Health Benefits and Services action area aims to drive organizational stability and employee retention through strategies that support equitable benefits and services.

Promoting community well-being must begin with supporting the fundamental factors that influence individual and collective health. Healthcare access is one of five key pillars that make up the social determinants of health.<sup>311</sup> It addresses physical or geographic access, affordability and quality or acceptability of care.<sup>311–315</sup> Healthcare access can vary based on gender identity, sexual orientation, race and ethnicity, age, socioeconomic background, disability, neurological development and location.<sup>311–314,316</sup> Furthermore, having access to expanded healthcare services can improve the physical, social and mental health of individuals and communities.<sup>312,317</sup>

A core component of a supportive work environment includes the provision of paid sick leave. While 94% of the countries within the Organisation for Economic Co-operation and Development (OECD) mandate paid sick leave, the United States and South Korea are the only countries that do not.<sup>318,319</sup> Studies show that implementing paid sick leave reduces contagion in the workplace, improves employee productivity and reduces employee turnover.<sup>320–324</sup> Organizations can be more equitable by enabling employees to work hours that are more flexible and/or supportive of their well-being. Yet, nearly 9% of the global population work more than 55 hours per week, and the practice of overwork reduces access of primary caregivers to higher-paid jobs due to disproportionate family care responsibilities.<sup>325,326</sup>

Millions of individuals take on the role of caregiver for their children, dependents and family members, and this number will continue to rise with the rapidly growing population of older adults.<sup>327,328</sup> An international survey addressing caregivers in Australia, France, Germany, Italy, Spain, the United Kingdom and the United States found that over 20% of participants had to reduce their work hours to accommodate caregiving responsibilities.<sup>329</sup> By doing so, they believed that their careers were negatively impacted.<sup>329</sup> Employers have the opportunity to support caregivers, and thereby improve staff retention, morale, and engagement and reduce stress, sick leave and absenteeism.<sup>328,330</sup> For working parents who have to find childcare, school breaks and closures can be especially stressful and expensive.<sup>331</sup> By offering a range of accommodations, employers can create a supportive culture that meets the diverse needs of employees.<sup>332</sup> Additionally, supporting employees during times of loss and grief by offering grief counseling and time away from work to grieve can reduce employee anxiety, depression and increased health risks over time.<sup>333,334</sup>

Obtaining appropriate support and treatment for mental health conditions or distress remains a global inequity, especially for marginalized populations, such as LGBTQ+ and communities of color.<sup>335</sup> Access to screening and mental health services can help encourage the utilization of services, support early diagnosis and help reduce poor mental health outcomes.<sup>336</sup>

Likewise, systemic discrimination of marginalized populations and the resulting disparities in access to economic, social and educational support have kept specific populations from advancing in their careers.<sup>337,338</sup> The resulting economic and education gaps limit gainful employment and financial stability. Supportive organizations foster greater employee satisfaction and retention through the development of programs for educational attainment and implementation of mentorship and sponsorship opportunities to support an employee's financial stability.<sup>339</sup>

Lastly, domestic violence is a key health and equity issue that is often not considered in the context of work, despite being the most common form of gender-based violence in the world.<sup>340</sup> Research shows that at work, victims of domestic violence are more likely to have reduced performance and increased absenteeism and turnover.<sup>341,342</sup> Employers can play a role in helping to reduce the physical and mental impacts of domestic violence by establishing policies and providing resources to support victims and educate employees.<sup>343,344</sup>

## EB01 PROMOTE HEALTH BENEFITS | O (MAX: 1 PT)

**Intent:** Support the overall health and well-being of individuals and their families by offering health benefits, policies and services.

**Summary:** This WELL feature requires access to essential health services.

**Issue:** Access to basic healthcare services is one of five key pillars that make up the social determinants of health.<sup>311</sup> Systemic racism and other biases, such as those based on sexual orientation and physical disability, are barriers to healthcare access.<sup>125,345–347</sup> According to the World Health Organization (WHO), people who are disabled are three times more likely to be denied healthcare and 50% more likely to experience health expenditure needs in excess of their ability to pay.<sup>348</sup> For people who are neurodivergent, cost, communication challenges and stigma have been identified as significant barriers to accessing care.<sup>315,349</sup> The LGBTQ+ population also faces difficulty in accessing healthcare based on discrimination and can experience health challenges at higher rates than the general population.<sup>346</sup> For example, asthma, osteoarthritis, cardiovascular disease and HIV/AIDS are more common in this population.<sup>346</sup> Overall, easier access to and support in navigating health insurance policies and benefits provides increased usage and satisfaction with services, especially for marginalized populations.<sup>350,351</sup> In many instances, organizations that offer such support garner greater retention and overall performance.<sup>350,351</sup>

**Solutions:** Medical care must be highly individualized and holistic to provide the greatest benefit. Still, there are several broad approaches to expanding health services which can lead to more affordable and inclusive coverage, reduced health inequities and organizational benefits.<sup>350</sup> Basic essential healthcare services include medical, dental, vision, mental health, substance use, preventive screenings, disease management and biometric assessments.<sup>317</sup> Studies demonstrate that, when offered, an overwhelming majority of employees seek one-on-one benefits consultations and flexible coverage options so they can opt into coverage that best meets their individual schedule and health needs.<sup>352</sup> To ensure the utilization of healthcare services across marginalized populations and for all employees, it is important to provide support in interpreting and navigating health benefits.<sup>350,351</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

A health benefits policy meets the following requirements:

- a. Is available to all eligible employees and their designated dependents (e.g., spouse, domestic partner, child) at no cost or subsidized that includes the following services:
  1. Medical care.
  2. Dental care.
  3. Vision care.
  4. Sexual and reproductive health services, including obstetrics and gynecology (OB-GYN) services and sexually transmitted infection (STI) testing and treatment.
  5. Medication/prescription coverage.
  6. Essential immunizations, as determined based on region.
  7. Preventive screenings and biometric assessments.
  8. Tobacco cessation programs.
  9. Infectious disease testing (e.g., tuberculosis, malaria, COVID-19) during a regional or global infectious disease outbreak, epidemic or pandemic as declared by a regional or global public health agency (e.g., WHO, disease control and prevention centers or equivalent).
- b. Confidential benefits consultations are available with clearly identified and qualified support staff (e.g., benefits counselor, human resources representative).

## EB02 PROVIDE ENHANCED HEALTH BENEFITS | O (MAX: 1 PT)

**Intent:** Support the overall health and well-being of individuals and their families by offering inclusive and comprehensive health benefits, policies and services.

**Summary:** This WELL feature requires access to expanded health benefits.

**Issue:** Medical services not covered by basic health benefits can be costly; noncoverage of certain medical services upholds discriminatory practices and exacerbate health inequities.<sup>353-355</sup> Many employer-based healthcare plans either exclude or only partially cover medical care related to reproductive services and care (e.g., doulas, fertility, comprehensive abortion care), gender transition, complementary and integrative healthcare, and non-emergency medical transportation.<sup>353,356-358</sup> These exclusions may be detrimental to a person's health and well-being, reinforcing a lack of access and, in some cases, reinforce discrimination of marginalized populations.<sup>353,359,360</sup> For instance, in the United States, only 32% of major insurance firms cover acupuncture, usually limiting coverage to about 20 visits, and just 17% of large insurers cover massage therapy.<sup>358</sup> Yet, the benefits are far reaching as a study from the United States supports that the use of complementary and integrative healthcare services is significantly higher among children with autism and developmental disabilities (21%) when compared with typically developing peers (16%).<sup>361</sup>

**Solutions:** Medical care is highly individualized and requires a holistic approach to provide the greatest benefit. Still, there are several broad approaches to expanding health services which can lead to more affordable and inclusive coverage, reduced health inequities and organizational benefits.<sup>350</sup> One survey from the United States found that 60% of employers providing inclusive health coverage for transgender employees reported it made their organization more competitive and improved recruitment and retention rates.<sup>362</sup> As another example, birth support workers (such as doulas) can improve outcomes before, during and after pregnancy, especially for Black, Brown, and Indigenous populations, by providing physical, emotional and partner support.<sup>363,364</sup> Doulas have the ability to disrupt systemic bias in the healthcare system and improve birth outcomes by acting as patient advocates for all birthing parents, particularly birthing parents of color or from other marginalized populations.<sup>363,364</sup> Overall, providing access to expanded healthcare services can help improve the physical, social and mental health of individuals and communities.<sup>312,317</sup>

### Part 1 Part 1 (Max: 1 Pt)

#### *For All Spaces:*

A health benefits policy is available for all eligible employees and their designated dependents (e.g., spouse, domestic partner, child) at no cost or subsidized. Health services must include at least four of the following:

- a. Doulas or other birth support workers.
- b. Comprehensive Abortion Care (CAC).
- c. Fertility Services (e.g., in vitro fertilization, iatrogenic infertility).
- d. Gender-affirming care including, at a minimum, hormone therapy and surgery.
- e. Complementary and integrative healthcare services (e.g., herbal therapy, mind and body practices such as acupuncture, massage, yoga, aquatic therapy).
- f. Nutrition support and services (e.g., medical nutrition therapy including nutrition supplements and enteral nutrition).<sup>354,365,366</sup>
- g. Non-Emergency Medical Transportation (NEMT) that includes reimbursable transportation both to and from medical appointments, utilizing a form of transportation that meets the medical needs of the individual and covering all associated expenses.<sup>367</sup>

#### **Note:**

This feature is a beta strategy and has an additional documentation requirement (beta feature feedback form). The feedback form supports IWBI in developing new features that are effective and applicable to projects around the world.

## EB03 OFFER ACCESSIBLE HEALTH SERVICES | O (MAX: 1 PT)

**Intent:** Support the overall health and well-being of individuals and their families by offering comprehensive health benefits, policies and services.

**Summary:** This WELL feature requires access to on-demand health services.

**Issue:** Healthcare access is one of five domains that make up the social determinants of health.<sup>311</sup> Within the European Union in 2016, one million deaths were preventable for people under 75 years old.<sup>368</sup> In the United States, only 8% of adults over the age of 35 received the recommended preventative health services in 2015.<sup>369</sup> One major barrier to receiving necessary healthcare is transportation.<sup>370</sup> Worldwide, over 600 million people live in locations where it takes more than an hour to drive to a healthcare facility and over three billion people live in locations where it takes more than an hour to walk to a healthcare facility.<sup>371</sup> Growing evidence supports that communities of color, immigrant populations and people who are disabled are disproportionately affected by transportation barriers.<sup>372–375</sup> Transportation barriers can lead to interrupted delivery of care, medication noncompliance, increased emergency department use and other poor health outcomes.<sup>374</sup> Additionally, delays between identifying a need for care and receiving services can increase costs as well as rates of complications and hospitalization.<sup>317,376</sup>

**Solutions:** Providing easily accessible health services can relieve both actual and perceived barriers to receiving care.<sup>317,377</sup> Offering onsite, nearby or virtual medical services can reduce transportation barriers and increase access to healthcare.<sup>378,379</sup>

### Part 1 Part 1 (Max: 1 Pt)

#### *For All Spaces:*

A health benefits policy is available for all eligible employees that provides health services at no cost or subsidized, on-site and in-person within {{well-unit}}0.25 mi|400 m({/well-unit}) of the project boundary or through a telemedicine provider or digital health platform. The health services program meets the following requirements:

- a. Experienced and qualified healthcare providers (e.g., physician, nurse practitioner, physician assistant) are available to provide confidential medical treatment for episodic, recurrent, urgent or other illnesses before, during and/or after regular business hours.
- b. A scheduling system that allows drop-ins and/or appointment booking.
- c. Eligible employees are permitted to use services during the workday if appointments are only available during regular business hours.

## EB04 OFFER SICK LEAVE AND FLEXIBLE WORK | O (MAX: 1 PT)

**Intent:** Support the overall health and well-being of individuals and their families by offering comprehensive health benefits, policies and services.

**Summary:** This WELL feature requires paid sick leave and other accommodations to support positive health outcomes.

**Issue:** Wages are often not sufficiently covered when employees take time off to recover for sickness or injury.<sup>320</sup> While 94% of the countries within the Organisation for Economic Co-operation and Development (OECD) mandate paid sick leave, the United States and South Korea are the only countries that do not.<sup>318,319</sup> Studies estimate that 20 million Americans and 37% of employees in the United Kingdom go to work sick because they lack sufficient sick leave, infecting colleagues as a result.<sup>320,321</sup> One study from the United States estimated that only 46% of Hispanic workers have access to paid sick leave compared to 63% of white workers and 62% of Black workers.<sup>380</sup> Moreover, flexible work can benefit vulnerable populations. A study from Australia found that people with disabilities are denied flexible work arrangements more frequently than those without disabilities, yet have more positive experiences when offered flexible work options.<sup>381</sup>

**Solutions:** Studies show that implementing paid sick leave reduces contagions in the workplace, improves employee productivity and reduces employee turnover.<sup>320-324</sup> Also, workplace health policies that provide flexible work options offer numerous benefits to employees, including support in navigating mental health challenges.<sup>382,383</sup> Increased flexibility at work can also reduce financial stress for working mothers by diminishing the wage gap between them and women without children.<sup>384</sup> Enhanced social support and adjustments to the work environment can also help enable a successful return for employees coming back from leave following a mental health challenge.<sup>385,386</sup>

### Part 1 Offer Sick Leave (Max: 1 Pt)

*For All Spaces:*

A sick leave policy that meets the following requirements is available to all eligible employees:

- a. Leave is offered upfront or accrued for use during any 12-month period for any health condition and meets one of the following requirements:
  1. Short-term sick leave for all eligible employees, distinct from paid time off and family leave, at least 10 days of which are paid at 50% or higher of the employee's full salary or wages.
  2. At least 20 days of combined paid time off and sick leave, which are paid at 50% or higher of the employee's full salary or wages. Projects using a blended policy are not eligible to pursue Feature EB5: Support Equitable Working Hours.
- b. Statement that discourages employees from coming into work when they feel sick and from doing work while on sick leave.
- c. At least one of the following:
  1. At least 12 weeks of sick leave (which may be unpaid) during any 12-month period for a chronic or serious health condition that involves inpatient care in a hospice or residential healthcare facility (e.g., stroke, infectious disease, surgery) or a health condition that requires continuing treatment and/or supervision by a healthcare provider (e.g., diabetes, asthma, cancer).
  2. Part-time options, flexible schedules or permission to work from home when recovering from serious health conditions.

### Part 2 Offer Employee Mental Health Support (Max: 0 Pt)

*For All Spaces:*

The project or organization has a mental health policy and the benefits within are made available to all employees without a need to disclose the underlying health reason. The mental health policy meets the following requirements:

- a. Sick leave may be used for mental health needs (e.g., appointments).<sup>386-388</sup>
- b. Short- or long-term leave may be used for mental health needs, with the option of a phased integration back to work after returning from leave.<sup>388,389</sup>
- c. Increased interpersonal support (e.g., manager support with prioritizing and managing workloads, increased frequency of one-on-one check-ins).<sup>386</sup>
- d. Adjustment of work schedule to support mental health needs (e.g., appointments, start/end times).<sup>386-388</sup>
- e. Adjustment of the workplace to support mental health (e.g., moving a workstation to a busier or a quieter area, providing a quiet space for breaks, providing earplugs or headphones, increasing personal space, providing the ability to work from home).<sup>386-388</sup>

## EB05 SUPPORT EQUITABLE WORKING HOURS | O (MAX: 1 PT)

**Intent:** Support employee well-being by providing opportunities for recovery and restoration within and outside the workplace.

**Summary:** This WELL feature requires sufficient time off to support recovery, restoration and a healthy work-life balance.

**Issue:** Nearly 9% of the global population work 55 or more hours per week.<sup>325</sup> The demand to work long hours reduces access to higher paying jobs for primary caregivers due to their disproportionate family care responsibilities.<sup>326</sup> In the retail and food-service industries, employees of color are more likely to experience unstable work schedules.<sup>390</sup> This gap, at 18% in the United States, is greatest among women of color.<sup>390</sup> Both long working hours and insufficient opportunities for recovery are associated with numerous adverse outcomes, including cardiovascular and immunologic issues and reduced sleep quality and duration.<sup>388</sup> Long hours are also associated with an increased risk for stress, burnout, excessive alcohol use and poor diet.<sup>388,391</sup> Studies from the European Union, Japan and the United States indicate that productivity decreases as the number of hours worked crosses a maximum threshold.<sup>392-397</sup> While this maximum continues to be debated, evidence of this inverse relationship grows. For example, United Kingdom workers average about 42 hours per week, at least four working hours more than people in Denmark, yet their productivity is nearly 24% lower.<sup>392</sup> Long hours are also connected to decreased employee creativity and morale.<sup>388,398</sup> For secondary school students, later school start times are linked to longer sleep duration, reduced substance use and overall improved health.<sup>399-401</sup> Schools with later start times have reported less absenteeism and tardiness, as well as higher test scores.<sup>400</sup>

**Solutions:** Employees need sufficient opportunities to psychologically detach and recover during non-work hours, such as in the evenings, on weekends and during vacations.<sup>402</sup> Findings indicate that mentally distancing oneself from work and engaging in restorative activities on a day-to-day basis is linked to employee well-being, including higher life satisfaction and mood, maintained performance, lower burnout and fewer health complaints.<sup>402</sup> Targeted interventions, such as limits on working hours and schedule, can help individuals achieve sufficient and high-quality sleep.<sup>403,404</sup> Research indicates that regular vacations may have a protective effect against chronic work stress by providing a sustained period of relief from daily stressors, demands and routines.<sup>405,406</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project or organization has a policy on schedules and time off that meets the following requirements:

- a. For all employees:
  1. A minimum of 11 consecutive hours off from work is available per 24-hour period.<sup>74,407</sup>
  2. A minimum of 24 consecutive hours off from work is available per 7-day period.<sup>74</sup>
  3. Employees who engage in shift work are provided a minimum 48-hour advance notice of shift changes.
- b. For all eligible employees:
  1. A minimum of 20 days of paid time off per calendar year (not including paid sick days or government-recognized paid holidays)<sup>74</sup>
  2. Work and work-related communications are not required during paid time off.<sup>402</sup>
  3. Sick, vacation, floating holiday, personal and all other employer-provided days off from work are clearly defined.
  4. Accrual policy is defined, including whether rollover days are allowed and date by which rollover days must be used.
- c. For students in secondary schools (if applicable), the school day starts no earlier than 8:30 a.m.<sup>408</sup>

## EB06 OFFER CHILDCARE SUPPORT | O (MAX: 1 PT)

**Intent:** Support working parents and caregivers so they can properly care for family members.

**Summary:** This WELL feature requires policies and programs that facilitate childcare.

**Issue:** Millions of working individuals take on the role of caregiver for their children, dependents and family members.<sup>328</sup> With the rapidly growing population of older adults, the number of working caregivers will continue to rise.<sup>327</sup> An international survey addressing caregivers in Australia, France, Germany, Italy, Spain, the United Kingdom and the United States found that over 20% of participants had to reduce their work hours to accommodate caregiving responsibilities.<sup>329</sup> By doing so, they believed that their careers were negatively impacted.<sup>329</sup> When companies fail to meet the needs of caregivers, they experience higher rates of absenteeism, workday interruptions and unpaid leave, resulting in an annual average loss of 3.4 billion, 2.8 billion and 1.4 billion US dollars, respectively.<sup>409</sup> School breaks and closures can be especially stressful and expensive for working parents who have to find childcare.<sup>331</sup> The need to balance finances with loss of wages from taking unpaid parental leave causes many people, particularly those with low household income, to take on debt or cut their leave short.<sup>409,332</sup>

**Solutions:** Employers have the opportunity to support caregivers, and thereby improve staff retention, morale, and engagement and reduce stress, sick leave and absenteeism.<sup>328,330</sup> On-site childcare centers can help working parents balance family needs with work demands. Flexible work arrangements for caregivers can help retain and attract employees while also improving overall productivity and engagement.<sup>332</sup> Additionally, financial assistance, support groups and referrals to community services can help individuals manage the unique challenges associated with being a caregiver.<sup>48</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

At least three of the following are provided for all employees:

- a. On-site childcare centers compliant with local childcare licensure regulations, or subsidies of at least 50% for off-site or at-home childcare.<sup>410</sup>
- b. Back-up childcare coverage (e.g., drop-in daycare, overnight childcare, in-home babysitting service, virtual childcare service) in case of unexpected events (e.g., family emergency, school closure) at no cost or subsidized by at least 50%.<sup>411</sup>
- c. School break childcare programs (e.g., center- or home-based care during school break or winter holidays)<sup>411</sup> at no cost or subsidized by at least 50%.
- d. Policy allowing the use of paid sick leave, family leave or personal days for the care of a child.
- e. Policy allowing at least one of the following to support all employees with children:
  1. Part-time options.
  2. Work from home flexibility.
  3. Flexible schedules.<sup>48</sup>

## EB07 OFFER NEW PARENT LEAVE AND SUPPORT | O (MAX: 3 PT)

**Intent:** Provide support for new parents to care for themselves and their children.

**Summary:** This WELL feature requires paid parental leave for primary and non-primary caregivers and supportive resources for parents returning to work.

**Issue:** Maintaining an infant's health before birth and during its first months of life is crucial to the child's long-term health.<sup>412</sup> Though infant care is a universal need, and most countries guarantee a minimum amount of paid maternity leave, many do not offer paid partner leave and, when they do, it is often significantly shorter in duration than maternity leave.<sup>413</sup> Additionally, shorter and/or unpaid maternity leave may create barriers to accessing necessary health services such as postpartum healthcare, which is critical to receive within the first six weeks after childbirth to support the health of the new mother.<sup>414</sup> The International Labor Organization (ILO) recommends a minimum of 18 weeks of parental leave, with research indicating that 40 weeks of paid leave results in the greatest overall reduction of risk for low infant birth weight and infant mortality and results in higher rates of on-time infant immunizations.<sup>412,415,416</sup> Longer parental leave is also associated with greater achievements for children in the long-term, including reduced school drop-out rates and increased medical appointment attendance.<sup>415,417-421</sup> Moreover, research shows that parental leave of up to a year (52 weeks) can help improve job continuity for women for several years after childbirth.<sup>422,423</sup> Research also demonstrates that fathers who take at least two weeks of paid leave are far more engaged in childcare even nine months after birth.<sup>424</sup> Organizational support for new parents can also increase employee retention and company loyalty.<sup>425</sup>

**Solutions:** Sufficient, paid parental leave that aligns with current research and back-to-work coaching programs are associated with numerous health benefits such as reduced rates of mortality and low birthweight for infants, higher rates of breastfeeding, decreased rates of postpartum depression and a higher likelihood for both parents to be involved.<sup>415,417-421</sup>

### Part 1 Part 1 (Max: 3 Pt)

*For All Spaces:*

A parental leave policy that meets the following requirements is available for all eligible employees:

- At least 40 weeks of parental leave is offered to the designated birthing parent and/or primary care giver.<sup>415,426</sup> Of this, at least a portion must be paid at 75% or higher of the employee's full salary or wages and include benefits, per the table below.<sup>426</sup>
- Parental leave is offered to the non-primary caregiver, of which at least a portion is paid at 75% or higher of the employee's full salary or wages and including benefits, per the table below.<sup>424,427</sup>
- Leave must be separate from other types of leave (e.g., sick leave, paid time off) and may be used consecutively or non-consecutively during any 12-month period during pregnancy or after birth or adoption.

Tier	Weeks of Paid Leave for the Birthing Parent and/or Primary Caregiver		Weeks of Paid Leave for Non-Primary Caregiver	Point Value
1	At least 12 weeks	AND	At least 2 weeks	1 point
2	At least 18 weeks <sup>410,416</sup>	AND	At least 3 weeks	2 points
3	At least 30 weeks <sup>415,422</sup>	AND	At least 4 weeks	3 points

The project or organization offers a policy that provides at least two of the following services to help employees utilize and return from parental leave.<sup>415,417-420</sup>

- At least one of the following upon returning from parental leave:
  - Part-time options (e.g., ramp back programs).
  - Work from home flexibility.
  - Flexible schedules.
- Communications (e.g., emails, modules, trainings) sent to expecting parents about the parental leave policies and resources, including guidance on the positive health impacts of parental leave.
- Coaching or counseling program, or other resources to help employees transition when returning from parental leave.
- Training for managers on how to work with employees to create a plan for parental leave and optimally support employees returning from parental leave.

## EB08 SUPPORT FAMILY LEAVE | O (MAX: 1 PT)

**Intent:** Support working parents and caregivers so that they can provide ample care for their family members.

**Summary:** This WELL feature requires policies and programs that support leave related to bereavement and other family needs.

**Issue:** Millions of working individuals take on the role of caregiver for their children, dependents and family members.<sup>328</sup> With the rapidly growing population of older adults, the number of working caregivers will continue to rise.<sup>327</sup> In response to their caregiving responsibilities, caregivers adjust their work schedules or take time off more often than other employees.<sup>428</sup> When companies fail to meet the needs of caregivers, they experience higher rates of absenteeism, workday interruptions and unpaid leave, resulting in an annual average loss of 3.4 billion, 2.8 billion and 1.4 billion US dollars, respectively.<sup>409</sup> In 2020, research from the United States found that the need to balance caregiving responsibilities with work obligations caused an estimated 14% of caregivers to take a leave of absence and 6% gave up working entirely.<sup>429</sup> Moreover, the loss of a loved one has been associated with higher risks for mortality.<sup>333,430</sup> Bereaved individuals may also experience greater rates of physical health problems, leading to disability, hospitalization and psychological stress such as insomnia, depression and anxiety.<sup>333,430</sup> Yet, many people do not have a legal right to adequate bereavement leave; countries in Europe and Asia, as well as Australia and New Zealand, offer five or fewer paid bereavement days; Canada affords two unpaid days of leave; and the United States does not mandate any leave.<sup>431</sup> Grief is also tied to productivity loss; a seminal study from 2003 conducted in the United States showed that grief-inducing experiences cost employers an annual average of \$75 billion USD in lost business.<sup>432</sup>

**Solutions:** By offering flexibility to caregivers, employers can create a supportive culture that meets the diverse needs and responsibilities of employees, helping to retain and attract employees while also improving overall productivity and engagement.<sup>332</sup> Additionally, financial assistance, support groups and referral to community services can help individuals manage the unique challenges associated with being a caregiver.<sup>48</sup> Providing employees with sufficient bereavement leave, grief counseling and other support can help employees manage grief and mitigate anxiety, depression and other health risks over time.<sup>333,334</sup>

### Part 1 Offer Family Leave (Max: 1 Pt)

*For All Spaces:*

The project or organization makes a family leave policy available to all eligible employees that meets the following requirements:

- a. At least 12 weeks of leave during any 12-month period, paid at 75% or higher of the employee's full salary or wages, for the care of a spouse, domestic partner, child, dependent, parent, parent-in-law, grandparent, grandchild, sibling or other designated relation with a chronic or long-term serious health condition (including an illness, injury, impairment or physical or mental health condition) that involves one of the following:<sup>433</sup>
  1. Inpatient care in a hospital, hospice or residential healthcare facility for conditions such as stroke, infectious disease or PTSD.
  2. Continuing treatment and/or supervision by a healthcare provider for conditions such as diabetes, asthma or cancer.
- b. The option to use paid sick leave or personal days for the care of a spouse, domestic partner, child, dependent, parent, parent-in-law, grandparent, grandchild or sibling.
- c. At least one of the following for the care of a spouse, domestic partner, child, dependent, parent, parent-in-law, grandparent, grandchild, sibling or other designated relation:
  1. Part-time options.
  2. Work from home flexibility.
  3. Flexible schedules.

### Part 2 Offer Bereavement Support (Max: 0 Pt)

*For All Spaces:*

A bereavement policy is available to all eligible employees that includes the following requirements:

- a. Protocol for notifying supervisors of the loss.
- b. Bereavement leave that includes:
  1. At least five days of paid leave during any 12-month period for the loss of a child (including miscarriages and stillbirths), spouse, parent or dependent.<sup>434,435</sup>
  2. At least three days of leave, paid at 75% or higher of the employee's full salary or wages, during any 12-month period for the loss of a family member, colleague or friend.<sup>434,435</sup>
  3. Additional unpaid leave for any of the above losses during any 12-month period, granting employees a minimum of 20 days of leave to use at any point in the bereavement process. The days of paid leave may be counted toward the 20 days.
- c. Bereavement support resources, covering:
  1. Coping with grief.
  2. Returning to work after a loss.<sup>334,436</sup>
  3. Accessing local bereavement support services.<sup>334,436,437</sup>
- d. Coverage for bereavement counseling services at no cost or subsidized by at least 50%.

## EB09 PROVIDE MENTAL HEALTH SCREENING AND SERVICES | O (MAX: 1 PT)

**Intent:** To increase awareness of and offer support to people who are living with mental health conditions.

**Summary:** This WELL feature requires programs and resources that support mental health.

**Issue:** Obtaining appropriate treatment for mental health conditions remains challenging around the globe. It is estimated that 76-85% of people in low- and middle-income countries and 30-50% in high-income countries receive no treatment for mental health conditions.<sup>438,439</sup> When care is received, it is often of poor quality.<sup>438,439</sup> In one report from the United States, LGBTQ+ individuals were found to experience more mental health symptoms than non-LGBTQ+ individuals.<sup>335</sup> The same study reported 80% of transgender respondents identified work or workplaces as contributing to mental health conditions.<sup>335</sup> Additionally, it found that 47% of Black or African American and 47% of Hispanic respondents reported leaving a job for mental health reasons.<sup>335</sup> In 2018, nearly 33% of adults with disabilities in the United States reported frequent mental distress.<sup>440</sup> Compared to other illnesses, treatment of mental health conditions is often delayed.<sup>441,442</sup> Many factors contribute to this gap including disparities in healthcare coverage and services for mental health conditions, rates of substance abuse and addiction in individuals experiencing mental health conditions, as well as the stigma and lack of overall awareness around mental health conditions.<sup>336,443</sup> This has major consequences: people in the United States living with mental health conditions are overall less likely to receive high quality medical care and preventive health services (e.g., immunizations, cancer screening).<sup>444-447</sup> They also miss an average of 4.8 workdays and experience 11.5 days of reduced productivity in a three-month period.<sup>448</sup> Conditions can be exacerbated during emergencies when added stressors can lead to social isolation, economic hardship or grief. All of these consequences reinforce the need to provide individuals with adequate access to mental health services.<sup>449,450</sup>

**Solutions:** Equitable access to screening and mental health services can help encourage the utilization of services, support early diagnosis and help reduce poor mental health outcomes.<sup>336</sup>

### Part 1 Offer Mental Health Screening (Max: 1 Pt)

*For All Spaces:*

The project or organization makes a clinical self-assessment screening tool for common mental health conditions available to all employees and students either in-person or virtually and at no cost. The tool meets the following requirements:

- a. Addresses, at a minimum, stress, depression, anxiety and substance abuse.
- b. Provides confidentiality by leveraging a licensed mental health professional, third party organization, online screening or health insurance offering.
- c. Includes directed feedback and/or guidance on interpretation of results and provides next steps for those who screen positive or at-risk.<sup>41,443</sup>

### Part 2 Offer Mental Health Services (Max: 0 Pt)

*For All Spaces:*

The project or organization makes a mental health benefits policy available to all eligible employees that meets following requirements:

- a. Mental health support is available at no cost or subsidized and covers the following at a minimum:
  1. Clinical screening and referral to licensed mental health professionals and support resources.<sup>443</sup>
  2. Inpatient treatment (e.g., residential programs, hospitalization).<sup>443</sup>
  3. Outpatient treatment, including options for telemental health services (e.g., in-person therapy, online therapy).<sup>443,451</sup>
  4. Prescription medication.<sup>443</sup>
- b. Mental health parity in health service coverage.<sup>443</sup>
- c. Information on benefits coverage and how to access mental health services and community resources is easily and confidentially available (e.g., via a health portal or employee website).<sup>443</sup>
- d. Confidential benefits consultation with people who are clearly identified and qualified (e.g., benefits counselor, human resources representative) is made available.

## EB10 ESTABLISH EDUCATION AND SUPPORT | O (MAX: 2 PT)

**Intent:** Support career growth by reducing educational and professional advancement barriers.

**Summary:** This WELL feature requires financial support for education and/or mentoring opportunities to support career advancement and financial stability.

**Issue:** Creating supportive programs for education, mentorship and sponsorship can positively impact employee financial health and opportunities.<sup>339</sup> Such support can have short and long-term effects on many dimensions of an employee's life and can benefit other members of their immediate family including spouses, children and parents.<sup>452</sup> Systemic discrimination and the resulting disparities in access to economic, social and educational support have historically kept marginalized populations from achieving gainful employment.<sup>337,338</sup> Financial wellness also impacts mental health, housing stability and food security.<sup>453</sup>

**Solutions:** Studies have shown that minorities and women significantly benefit from peer-to-peer mentors and sponsors who champion them.<sup>338,454,455</sup> Sponsors provide a deeper level of mentorship to their protegeses.<sup>456</sup> Through exposure and relationships, they provide career advancement opportunities for the protegee when they are "in and out of the room".<sup>456</sup> Mentorship develops trust between the two parties, creating a foundation for a successful relationship between mentor and mentee.<sup>338</sup> Mentorship surveys also reveal satisfaction amongst employees within such programs – in the United States, 71% of employees with a mentor say their company provides them with excellent or good opportunities to advance their careers.<sup>455</sup> Employees may also benefit from other support options such as speaker sessions, workshops and seminars.<sup>457</sup> Guest speakers can help advance professional development, spark new ideas and offer follow-up training opportunities.<sup>458</sup> Providing subsidized financial assistance to promote education for marginalized populations may create more opportunities for career advancement and, therefore, bring greater financial stability for individuals and their families.<sup>459-461</sup> Research from the United States found that 80% of employees agreed that their employer's tuition assistance program makes them more likely to stay with the organization, and 71% of respondents rated tuition assistance as the best or among the best benefits offered by their employer (excluding health care benefits).<sup>339,462</sup> Financial assistance for education and peer-to-peer mentorship positively impacts all employees, and in particular, marginalized populations.<sup>455,461</sup>

### Part 1 Part 1 (Max: 2 Pt)

*For All Spaces:*

The project or organization provides a Tuition Assistance Program (TAP), which may be limited to select institutions, to all eligible employees that meets the following requirement:

- a. Pays for a minimum of 75% of educational expenses for all enrolled courses each term/year (including tuition, program fees and books/materials) for vocational training, undergraduate, graduate, certificate courses and similar educational goals. Assistance is structured per the table below:

Tier	Tuition Assistance Structure	Point Value
1	Reimbursements for educational expenses	1 point
2	Direct payments for educational expenses	2 points

OR-----

The project or organization provides a mentorship or sponsorship program that meets the following requirements:

- a. A process for matching mentor to mentee and/or sponsor to protégé (e.g., interest form).
- b. A plan development process co-created between mentor and mentee or sponsor and protégé to identify the needs, goals and objectives. The plan should be customized and focus on individual strengths, personality, skills and workstyles.
- c. A process by which mentees and protégés report on meetings between the mentor/mentee or sponsor/protégé and participation in activities recommended by the mentor or sponsor.
- d. An allocated budget for specialized resources or training related to professional development (e.g., conferences, courses, assessments, workshops, group sessions) for all participating mentees and/or protégés.<sup>249,250</sup>
- e. Mandatory DEI and anti-bias training about explicit and implicit bias (in the form of educational seminars, workshops, classes or on-demand modules) for all participating employees before engagement in the program.

**Note:** This Option is worth 1 point

**Note:**

This feature is a beta strategy and has an additional documentation requirement (beta feature feedback form). The feedback form supports IWBI in developing new features that are effective and applicable to projects around the world.

## EB11 SUPPORT VICTIMS OF DOMESTIC VIOLENCE | O (MAX: 1 PT)

**Intent:** Increase availability and access to support services, resources and care for victims of domestic violence.

**Summary:** This WELL feature requires a policy that supports victims of domestic violence and employee education on available resources.

**Issue:** Domestic violence is the most common form of gender-based violence across the world.<sup>340</sup> Women are disproportionately affected, with violence most commonly perpetrated by men against women.<sup>463</sup> The World Health Organization estimates that around 30% of women who have been in an intimate relationship experience some form of physical and/or sexual violence committed by an intimate partner.<sup>340</sup> Domestic violence can lead to a range of adverse health consequences, including higher risk of injuries, sexually transmitted infections (including HIV), depression, anxiety and substance misuse.<sup>340</sup> The impact of this violence is severe: globally, it is estimated that up to 38% of murders of women are committed by a male intimate partner.<sup>340</sup> Pregnant women are more likely to die from domestic violence trauma than women who are not pregnant.<sup>464</sup> Worldwide, women with a disability are more likely to experience domestic violence when compared with women without a disability.<sup>465-467</sup> In the United States, over 50% of American Indian and Alaskan Natives and 40% of Black women experience physical violence by an intimate partner.<sup>468</sup> Also, surveys from the United States found that 61% of bisexual women, 54% transgender people and 44% of lesbians experience some form of violence from an intimate partner.<sup>469,470</sup> Beyond the negative health outcomes, the impacts of domestic violence can lead to significant social and economic challenges. Research shows that, at work, victims are more likely to have reduced performance and productivity and increased absenteeism and turnover.<sup>341,342</sup> Victims may also experience loss of wages and inability to work, as well as increased risk of homelessness.<sup>340,471,472</sup>

**Solutions:** Organizations can play a role in responding to domestic violence by establishing policies and providing resources designed to protect and support victims.<sup>341,342,344,473</sup> It is also important for employers to develop supportive and non-judgmental environments in which employees feel comfortable and safe disclosing any violent situation they may be facing.<sup>344</sup> Employers can help protect victims through protocols and processes for confidential reporting, reviewing and responding to an incident, call screening, increasing security and responding to emergencies.<sup>341,473</sup> Policies that provide victims with the ability to change workplace location and adjust start and finish times are also supportive.<sup>341,344,473</sup> Countries such as New Zealand and the Philippines, as well as parts of Canada, have introduced legislation that promotes best practices among employers to support victims of domestic violence through accommodations such as dedicated paid time off and financial support for relocation.<sup>474-476</sup> By providing policies to support victims and by educating employees about the issue and available resources, employers may play a role in helping to reduce the physical and mental impacts of domestic violence.<sup>343,344</sup>

### Part 1 Part 1 (Max: 1 Pt)

#### For All Spaces:

The project or organization makes available to all eligible employees a domestic violence policy that meets the following requirements:

- a. Provides employees who are victims of domestic violence at least ten days of leave, paid at the employee's full salary or wages, during any 12-month period. Leave must meet the following requirements:<sup>341,343,344,473</sup>
  1. Distinct from paid time off, sick leave and family leave.
  2. If requiring incident disclosure for employees to qualify, takes steps to protect employee privacy.
  3. Does not require a prerequisite minimum qualifying period of employment before an employee is eligible to take leave.
- b. Outlines a clear protocol for incident reporting and response that includes the following:
  1. Process for employees to confidentially report incidents of domestic violence, including one or more designated contacts that employees can approach confidentially for support when reporting incidents.<sup>473</sup>
  2. Process of incident response that includes consultation with the victim, prioritizes victim privacy and safety and ensures incident disclosure will not adversely impact victim employment status.
- c. Offers employees who report domestic violence incidents at least two of the following:
  1. Flexible working arrangements (e.g., adjusted work hours or location).<sup>341,343,344,473</sup>
  2. Heightened security measures (e.g., call screenings, controlled workplace access, duress alarms, changes to contact information, worksite security escorts).<sup>341,463,473</sup>
  3. Referrals to local support organizations, community groups and crisis lines, including those available through Employee Assistance Programs (EAPs).<sup>343,473</sup>
  4. Temporary accommodations or financial support to cover the costs of temporary accommodations.<sup>341</sup>
- d. Policy and related resources provided by the organization are easily and confidentially available (e.g., via a health portal, mailed communications, employee website) to all employees and reviewed and adjusted (as needed) annually by the organization. Policy must be made available to all new employees during onboarding.<sup>341,463</sup>

The project or organization offers in-person or virtual trainings (e.g., workshops, seminars) that meet the following requirements:

- a. Are required of all managers and made available to all employees.<sup>463,473</sup>
- b. Covers the following topics:<sup>343,344</sup>
  1. The relevant domestic violence policy and resources.
  2. Signs and symptoms that a person may be a victim of domestic violence.
  3. How to appropriately respond if a colleague or direct report discloses that they or another employee is experiencing domestic violence.

#### Note:

This feature is a beta strategy and has an additional documentation requirement (beta feature feedback form). The feedback form supports IWBI in developing new features that are effective and applicable to projects around the world.

## SUPPORTIVE PROGRAMS AND SPACES (ES)

The Supportive Programs and Spaces action area includes strategies for spaces and supportive programs that promote inclusion and access.

There are many factors that can affect the ongoing cultivation of a more equitable, healthier space, such as opportunities to support people who are breastfeeding, access to areas for restoration and movement, and availability of quality food that accommodates diverse dietary needs.

Equitable environments should address the needs of new mothers, who represent a significant segment of the global labor force, by, for instance, providing postpartum lactation support to help maintain their own health and the health of their babies.<sup>477,478</sup> Breastfeeding is recommended by the World Health Organization (WHO), United Nations Children's Fund (UNICEF) and the American Academy of Pediatrics to support optimal growth and development in infants.<sup>479-483</sup> Yet, numerous barriers, including a lack of workplace support, contribute to a drop in milk supply and/or early weaning among working mothers.<sup>478</sup> A safe and private space with essential amenities to continue breastfeeding or pumping is needed when returning to work.<sup>478,484</sup> Designated lactation rooms and other supportive programs and policies, such as schedules that provide time to nurse or pump breastmilk, can decrease healthcare expenses, reduce employee absences associated with caring for a sick child and increase retention rates.<sup>410,478,485,486</sup>

Restorative spaces also play an important role in creating a healthier environment. Work-induced fatigue is common among office workers, with burnout increasing across the globe.<sup>487-489</sup> In the United States, about one in four working parents experience burnout, with mothers of color at greatest risk.<sup>490</sup> For people with autism, life stressors including masking their symptoms can cause autistic burnout, a specific burnout characterized by long-term exhaustion, loss of function and reduced tolerance to stimulus.<sup>491</sup> Workplaces that provide restorative spaces for individuals to step away and recharge can help alleviate the negative effects associated with work-related fatigue and mental depletion.<sup>487</sup> Outdoor spaces can also be used for restorative activities. Beyond their stress-relieving benefits, indoor and outdoor restorative environments support individuals with a wide variety of beliefs, religions and traditions by providing space for practices like prayer and meditation.

Another component of an equitable and healthy environment includes the provision of physical activity spaces. Despite the many benefits of physical activity and widely disseminated guidelines, nearly a quarter of the global population does not achieve recommended physical activity levels.<sup>492,493</sup> International physical activity guidelines recommend that the general population engages in regular cardiovascular and muscle-strengthening activities.<sup>493</sup> Lack of access to safe and convenient places to be physically active contributes to the numerous ethnic and racial disparities in physical activity levels, such as among Hispanic, Black, and American Indian/Alaskan Native adults in the United States.<sup>494</sup> For instance, regardless of neighborhood socioeconomic status, Black Americans identify concerns for safety and the need to be hypervigilant due to racial profiling as major barriers to exercising outside.<sup>495</sup> In addition to safety concerns, African American women in the United States report cost, access and time to be among the most significant barriers to being physically active.<sup>496</sup> Parents have identified scheduling constraints, work, guilt, lack of support and family responsibilities as barriers to physical activity.<sup>497</sup> Evidence also suggests that children with ADHD participate in daily physical activity at a significantly lower rate than their peers without ADHD.<sup>498-500</sup> At the same time, acute physical activity may improve cognitive performance in people with ADHD, as well as in people with severe impairments in executive functioning.<sup>501,502</sup> For example, evidence suggests that short sessions of physical activity may improve attention, mood and motivation in adults with ADHD.<sup>498-500</sup> Facilitating access to physical activity spaces is a key strategy toward creating more just, equitable and health-promoting spaces for all.

Cleaning is also fundamental for maintaining a healthy indoor environment. For example, the presence of common microorganisms, such as dust mites, is directly related to the development of asthma and allergies. Yet, many cleaning products contain ingredients that are hazardous to human health.<sup>503-505</sup> Some cleaning products may emit substances that irritate the nose, eyes, throat and lungs and can cause or trigger asthma attacks.<sup>506</sup> Certain populations, such as Hispanic workers who make up 60% of cleaning staff in the United States, experience disproportionate exposure to health-harming cleaning chemicals.<sup>507</sup> Additionally, chemical and fragrance sensitivity is common in people with autism, causing migraines, asthma attacks and other respiratory and neurological problems.<sup>508,509</sup> A thorough plan for cleaning operations that reduces exposure to toxic chemicals benefits both those who regularly use the space as well as the staff who maintain it.<sup>510</sup>

Lastly, environments that provide access to nutritious, affordable foods are critical in supporting health equity. Poor diets that consist of highly processed foods, with added sugars, refined grains and trans fats, are the second-leading risk factor for mortality and morbidity globally, accounting for 8% of all deaths and contributing to an estimated 9.6% of the global burden of disease.<sup>511</sup> In the United States, communities of color are more likely to have access to unhealthy food options and less likely to have access to healthy food options, a trend that is correlated to higher rates of diabetes.<sup>512,513</sup> Close proximity to supermarkets, grocery stores and farmers markets that offer abundant and affordable fruits, vegetables, whole grains and other nutritious options can help support improved dietary behaviors.<sup>514,515</sup> Additionally, the types of food provided in a workplace and the information accompanying it affects the way people navigate food choices, food allergies and other intolerances.<sup>516-519</sup>

## ES01 OFFER LACTATION SUPPORT | O (MAX: 1 PT)

**Intent:** Provide spaces and policies that encourage and support nursing mothers.

**Summary:** This WELL feature requires the provision of dedicated and well-equipped lactation rooms as well as paid break times, support during travel and other resources to help mothers continue breastfeeding after returning to work.

**Issue:** New mothers represent a significant segment of the global labor force and require postpartum lactation support to maintain their own health and the health of their babies.<sup>477,478</sup> Worldwide, only 40% of working women with infants have basic maternity benefits and this disparity is greater in areas of Africa where only 15% have any employment benefits that support breastfeeding.<sup>520</sup> It is estimated that the lives of 520,000 children could be saved with greater global investment in breastfeeding.<sup>521</sup> Exclusively breastfeeding infants for the first six months is recommended by WHO, United Nations Children's Fund (UNICEF) and the American Academy of Pediatrics to support optimal growth and development in infants.<sup>479-483</sup> Following this breastfeeding recommendation may reduce rates of gastrointestinal infection, asthma, allergies and ear infections in children, as well as decrease rates of depression and lower the risk of developing breast and ovarian cancer in breastfeeding individuals.<sup>479,481,482</sup> Numerous barriers, including a lack of workplace support, contribute to a drop in milk supply and/or early weaning among working mothers.<sup>478</sup> A safe and private space with essential amenities to continue breastfeeding or pumping is needed when returning to work.<sup>478,484</sup>

**Solutions:** Supportive breastfeeding programs and policies, such as schedules that provide time to nurse or pump breastmilk, lactation counseling and special accommodations for business travel can help working mothers initiate and sustain breastfeeding.<sup>478,485</sup> Lactation rooms that provide privacy, optimize thermal and acoustic comfort and meet accessibility standards can enable mothers to continue nursing or pumping breastmilk in the workplace.<sup>486</sup> These solutions can decrease healthcare expenses, reduce employee absences associated with caring for a sick child and increase retention rates.<sup>410</sup>

### Part 1 Offer Workplace Breastfeeding Support (Max: 1 Pt)

*For All Spaces:*

The project or organization provides a policy to all eligible employees who are breastfeeding that meets the following requirements:

- a. Paid break times for nursing or pumping that last at least 20 minutes at least every 3 hours, with flexibility as necessary to meet individual needs.<sup>486</sup>
- b. One-time coverage or a subsidy of at least 50% for the purchase of a portable breast pump and/or availability of hospital-grade electric pump that accommodates multiple users.<sup>410</sup>
- c. Postpartum lactation counseling, including back-to-work lactation counseling, offered at no cost or subsidized by at least 50%.<sup>410</sup>

The project or organization provides a policy to all eligible employees who are breastfeeding while traveling for business that meets the following requirements:

- a. For all trips: an insulated cooler is supplied at no cost or fully reimbursed.
- b. For all overnight trips: hotels (or other overnight accommodations) with refrigerator access.
- c. For trips lasting longer than 48 hours: full coverage or reimbursement for breastmilk shipping services (e.g., to have expressed milk shipped home).

### Part 2 Design Lactation Room (Max: 0 Pt)

*For All Spaces:*

The project provides at least one dedicated lactation room for all employees that meets the following requirements:

- a. Is at least {(well-unit)}7 ft x 7 ft|2.1 m x 2.1 m{(well-unit)}.<sup>486</sup>
- b. Includes, at a minimum, the following:
  1. Work surface and comfortable chair.<sup>486</sup>
  2. Two electrical outlets.<sup>486</sup>
  3. User-operated lock with occupancy indicator (e.g., signage).<sup>486</sup>
  4. Reservation system, designed to consider privacy preferences (e.g., utilizes a numbering system instead of individual names).<sup>410,486</sup>
  5. Proximity to sink, faucet, paper towel dispenser and soap. These amenities are not required to be located in a lactation room but may not be located in a bathroom.<sup>486,522</sup>
  6. Refrigerator with dedicated, sufficient space for milk storage, based on assessment of user needs.<sup>486</sup>
  7. Dedicated microwave for sterilizing pump equipment.<sup>523</sup>
  8. Dedicated storage space for pumping supplies.<sup>486</sup>
- c. Provides a calming and comfortable environment that addresses, at a minimum, the following:
  1. Sound minimization.<sup>486</sup>
  2. Ambient lighting.<sup>486</sup>
  3. Thermal comfort.<sup>486</sup>
- d. Present in a quantity that meets current and anticipated demand.<sup>410</sup>

## ES02 PROVIDE RESTORATIVE SPACE | O (MAX: 1 PT)

**Intent:** Provide access to spaces that promote restoration and relief from mental fatigue or stress.

**Summary:** This WELL feature requires environments that encourage restoration.

**Issue:** Work-induced fatigue is common among office workers, with reports of burnout increasing in the Asia-Pacific region, Europe and the United States.<sup>487–489</sup> About one in four working parents experience burnout and mothers of color are at the greatest risk.<sup>490</sup> For people with autism, life stressors including masking their symptoms can cause autistic burnout, a specific burnout characterized by long-term exhaustion, loss of function and reduced tolerance to stimulus.<sup>491</sup> Mental fatigue and stress accumulate at work as individuals deplete their physical and mental resources, creating burnout.<sup>487</sup> Moreover, prolonged exposure to stress results in psychological distress, including decreased mental acuity, deficits in motivation and irritability.<sup>487,488</sup>

**Solutions:** Workplaces that provide restorative spaces for individuals to recharge and refocus can help alleviate the negative effects associated with work-related fatigue and mental depletion.<sup>524</sup> By incorporating nature, among other recovery elements, these spaces can help encourage overall well-being.<sup>183</sup> For example, exposure to plants and other natural elements has been linked with decreased levels of diastolic blood pressure, depression and anxiety; increased attention capacity; better recovery from job stress; and increased psychological well-being.<sup>142,143</sup> Interaction with nature can also support recovery from illness and increase pain tolerance.<sup>142,143</sup> Outdoor spaces can also be used for restorative activities. Beyond their stress-relieving benefits, restorative environments support individuals with a wide variety of beliefs, religions and traditions by providing space for practices like prayer and meditation.

### Part 1 Part 1 (Max: 1 Pt)

#### For All Spaces:

The project provides at least one indoor or outdoor space for all regular occupants. The space may be made up of a single space or multiple spaces that meet the following requirements:

- a. The main purpose is for relaxation and restoration. Space may serve multiple functions but is not to be used for work.
- b. Minimum size of  $\{(well\text{-unit})\}75\text{ ft}^2\{7\text{ m}^2\{(\text{well-unit})\}$  plus  $\{(well\text{-unit})\}1\text{ ft}^2\{0.1\text{ m}^2\{(\text{well-unit})\}$  per regular occupant or  $\{(well\text{-unit})\}2,000\text{ ft}^2\{186\text{ m}^2\{(\text{well-unit})\}$ , whichever is smaller.
- c. Provides a calming and comfortable environment by incorporating at least five of the following:
  1. Adjustable lighting (e.g., dimmable light levels for indoor spaces)<sup>525</sup>
  2. Sound interventions (e.g., water feature, natural sounds, sound masking).<sup>526</sup>
  3. Thermal control (e.g., fans, shading).<sup>527</sup>
  4. Seating arrangements that accommodate a range of user preferences and activities (e.g., movable lightweight chairs, cushions, mats).<sup>525</sup>
  5. Nature or natural elements.<sup>528,529</sup>
  6. Subdued colors, textures and forms.<sup>530–532</sup>
  7. Visual privacy.<sup>533</sup>
- d. Includes signage, education materials or other resources explaining its purpose and intended use.

**Note:** If restorative space is provided only outdoors, it must be functional year-round.

The project encourages the use of restorative space(s) through the following:

- a. Policy allowing paid breaks away from the workstation for all employees.<sup>402</sup>

## ES03 PROVIDE PHYSICAL ACTIVITY SPACES | O (MAX: 1 PT)

**Intent:** Promote exercise and movement by providing complimentary access to spaces that enable physical activity.

**Summary:** This WELL feature requires access to a physical activity space at no cost through an on-site or nearby fitness facility.

**Issue:** International physical activity guidelines recommend that the general population engage in regular cardiovascular and muscle-strengthening activities.<sup>493</sup> Despite widely disseminated guidelines, nearly a quarter of the global population does not achieve recommended physical activity levels.<sup>492</sup> Key determinants of an individual's physical activity levels include time, convenience, motivation, self-efficacy, weather conditions, travel and family obligations, fear of injury and lack of social support.<sup>166,167</sup> Lack of access to safe and convenient places to be physically active contributes to the numerous ethnic and racial disparities in physical activity levels, such as among Hispanic, Black, and American Indian/Alaskan Native adults in the United States.<sup>494</sup> For instance, regardless of neighborhood socioeconomics, Black Americans identify concerns for safety and the need to be hypervigilant due to racial profiling as major barriers to exercising outside.<sup>495</sup> Physical activity might provide additional benefits for people who are neurodivergent. For example, short sessions of physical activity may improve attention, mood and motivation in adults with ADHD.<sup>499,500</sup> Acute physical activity may improve cognitive performance in people with ADHD, as well as in people with more severe impairments in executive functioning by triggering brain activation.<sup>501,502</sup> Still, evidence from the United States suggests that adults and children with ADHD participate in daily physical activity at a significantly lower rate than their peers without ADHD.<sup>498-500</sup>

**Solutions:** A systematic review of studies from the United States found that creating enhanced places for physical activity was effective at increasing exercise.<sup>534</sup> Among the participants who exercised more, the review also showed improved health outcomes for physical fitness including aerobic capacity, energy expenditure, weight loss and decreased body fat.<sup>534</sup> Providing easy access to spaces designed for physical activity helps individuals engage in regular fitness activities.<sup>534</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

A dedicated fitness facility is available within the project boundary at no cost to regular occupants and is sized according to one of the following requirements:

- a. The space includes at least two types of exercise or sporting equipment (e.g., free weights, treadmill, yoga mat, basketball) in quantities that allow use by at least 5% of regular occupants at any time.<sup>535</sup>
- b. The space includes at least two types of exercise or sporting equipment (e.g., free weights, treadmill, yoga mat, basketball). The minimum size is  $\{ \{ \text{well-unit} \} 270 \text{ ft}^2 | 25 \text{ m}^2 \{ \{ \text{well-unit} \} \} \text{ plus } \{ \{ \text{well-unit} \} 1 \text{ ft}^2 | 0.1 \text{ m}^2 \{ \{ \text{well-unit} \} \} \}$  per regular occupant or  $\{ \{ \text{well-unit} \} 10,000 \text{ ft}^2 | 930 \text{ m}^2 \{ \{ \text{well-unit} \} \} \}$ , whichever is smaller.<sup>536</sup>

OR-----

The project meets the following requirement:

- a. Regular occupants have access to a fitness facility at no cost within a  $\{ \{ \text{well-unit} \} 650 \text{ ft} | 200 \text{ m} \{ \{ \text{well-unit} \} \}$  walking distance of the project boundary.

## ES04 SELECT PREFERRED CLEANING PRODUCTS | O (MAX: 1 PT)

**Intent:** Support the health of individuals and cleaners by utilizing less hazardous products.

**Summary:** This WELL feature requires the selection of low-hazard cleaning products.

**Issue:** Cleaning is fundamental for maintaining a healthy indoor environment. For example, the presence of common microorganisms such as dust mites, which are ubiquitously present around the world, is directly related to the development of asthma and allergies.<sup>503,504</sup> Yet, many cleaning products contain ingredients that degrade the indoor air quality and may be hazardous to human health.<sup>505</sup> Some cleaning products emit substances that irritate the nose, eyes, throat and lungs and can cause or trigger asthma attacks.<sup>506</sup> An international study demonstrated that childhood asthma was associated with the mothers' occupational exposure to cleaning products near or at conception.<sup>537</sup> Furthermore, chemical and fragrance sensitivity is common in people with autism and is associated with migraines, asthma attacks and other respiratory and neurological problems.<sup>508,509</sup> Worldwide, 71% of all migrant workers are employed in the service industry, where they are prone to dangerous chemicals exposure.<sup>538</sup> Hispanic individuals make up 60% of the cleaning staff in the United States, thus experiencing disproportionate exposure to health-harming cleaning chemicals.<sup>507</sup>

**Solutions:** A thorough plan for cleaning operations that reduces exposure to toxic chemicals can benefit both those who regularly use the space as well as the staff who maintain it.<sup>507-509</sup> Using cleaning products that contain less hazardous ingredients may reduce the risk of respiratory and dermal symptoms.<sup>539</sup> Switching to safer cleaning products does not compromise cleaning effectiveness and also reduces environmental damage.<sup>510,540</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces except Dwelling Units:*

The project or organization has a cleaning policy that lists all surface cleaning and disinfection products and specifies that they meet the following requirements:

- a. Cleaning products as-sold meet one of the following:
  1. Are labeled as 'low-hazard' or 'safer' by an [Reference](#),<sup>541</sup> or by a third-party certification recognized by the local government where the building is located.
  2. Have ingredients disclosed through a Safety Data Sheet (SDS) that meets EU Regulation 2015/830 (CLP);<sup>542</sup> or through a disclosure document that meets California State Bill No. 258<sup>543</sup>, and there are no ingredients listed in the disclosure document present at 100 ppm (0.01%) or above that are classified with the following codes and hazard statements as defined by the Globally Harmonized System (GHS)<sup>544</sup>: H311, H312, H317, H334, H340, H350, H360, H372.
  3. Meet Feature X08 Materials Optimization.
- b. Products labeled as disinfectants meet the following:
  1. Have all antimicrobial efficacy claims registered by a governmental office and stated in their label.
  2. Utilize only active ingredients only from the following list: citric acid, hydrogen peroxide, L-lactic acid, ethanol, isopropanol, peroxyacetic acid, sodium bisulfate, chitosan.
  3. Section 2 of the SDS does not contain the following GHS codes: H311, H312, H317, H334, H340, H350, H360, H372.

## ES05 ENSURE LOCAL FOOD ACCESS | O (MAX: 1 PT)

**Intent:** Promote the consumption of fresh, local and seasonal fruits and vegetables by increasing access.

**Summary:** This WELL feature requires consideration of the local food environment during site selection or programming.

**Issue:** Dietary patterns around the world are influenced by a complex combination of personal, cultural and environmental factors, including the local food environment. The local food environment encompasses the type and density of available food retail outlets.<sup>545</sup> Some characteristics of local food environments are associated with weight gain and obesity in the surrounding community.<sup>546</sup> Nearly 3 billion people worldwide, especially those who are low income, do not have access to healthy diets.<sup>547</sup> In the United States, communities of color are more likely to have access to unhealthy food options and less likely to have access to healthy food options, a trend that is correlated to higher rates of diabetes.<sup>512,513</sup>

**Solutions:** Close proximity to supermarkets, grocery stores and farmers markets that offer abundant and affordable fruits, vegetables, whole grains and other nutritious options can help support improved dietary and lifestyle behaviors.<sup>514,515</sup> Hospitals and healthcare institutions that host farmers markets and farm stands contribute to healthier food environments by increasing fruit and vegetable consumption, an effective model that may be generalizable to other large institutions.<sup>548,549</sup> Communities with a greater density of healthy food retail outlets are associated with a lower BMI and, more generally, the availability of supermarkets is associated with meeting dietary recommendations.<sup>550-553</sup> Mobile food markets, food carts and fruit and vegetable stands are additional ways to increase access to healthy food options.<sup>548</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The main building entrance is located within a {{well-unit}}0.25 mi|400 m{{/well-unit}} walk distance of one of the following:

- a. Supermarket or store with a fresh fruit and vegetable section.<sup>554</sup>
- b. Farmers market that is open at least once a week and operates for at least four months of the year.<sup>555</sup>

OR-----

The project meets one of the following requirements:

- a. Serves as a distribution point for a community-based agriculture program that delivers fruits and vegetables at least twice a month for at least four months of the year, in which regular occupants can participate.<sup>555</sup>
- b. Hosts the weekly sale of fruits and vegetables (e.g., fruit and vegetable carts or stands, mobile markets) for at least four months of the year.<sup>556</sup>

OR-----

The project meets the following requirement:

- a. Transportation is provided at no cost between the project and a supermarket and/or store with a fresh fruit and vegetable section and/or farmers market.

## ES06 PROMOTE FOOD QUALITY | O (MAX: 1 PT)

**Intent:** Help individuals avoid highly processed foods and refined ingredients.

**Summary:** This WELL feature requires the availability of food and beverages that have limited amounts of sugar and refined grains.

**Issue:** Poor diets that consist of highly processed foods, with added sugars, refined grains and trans fats, are the second-leading risk factor for mortality and morbidity globally, accounting for 8% of all deaths and contributing to an estimated 9.6% of the global burden of disease.<sup>511</sup> For example, the consumption of large amounts of added sugar has been associated with overall poor diet quality, as well as an increased risk of heart disease, obesity and tooth decay.<sup>557–559</sup> Moreover, maternal sugar consumption during pregnancy may adversely affect child cognition.<sup>560</sup> Refined grains, such as white flour and white rice, go through a process that removes most of their vitamins, minerals and dietary fiber, making them less healthy than whole grains.<sup>561</sup> National Health and Nutrition Examination Survey (NHANES) data from 2013-2016 revealed that Hispanic adults and non-Hispanic Black adults had a significantly lower whole grain to total grain intake when compared to non-Hispanic white adults.<sup>562</sup> Fiber consumption is associated with improved digestive health in the general population and has also been linked to a lower risk of heart disease, stroke, hypertension, diabetes and obesity.<sup>563</sup> Specifically, fiber can help relieve constipation, a common ailment for people with autism.<sup>564,565</sup> In addition to fiber, whole grains also provide magnesium, two dietary deficiencies frequently observed in people with ADHD.<sup>566–569</sup>

**Solutions:** Increasing access to healthier food items includes increasing the availability of healthier alternatives, as well as limiting the availability of highly processed foods. Based on recommendations by the World Health Organization (WHO), on average, adults should consume no more than 25 grams of added sugar per day.<sup>557</sup> Limiting one's intake of sugar-sweetened beverages and sugary foods can help individuals reduce their daily sugar intake to meet these recommendations.<sup>557</sup> Promoting the consumption of whole grains by increasing whole-grain options can also help individuals increase their intake of dietary fiber.<sup>559,570</sup>

### Part 1 Limit Total Sugars (Max: 1 Pt)

*For All Spaces:*

Foods and beverages are sold or provided by (or under contract with) the project owner on a daily basis and meet the following requirements:

- a. Beverages do not contain more than 25 g of sugar per container or serving.<sup>557</sup>
- b. At least 25% of beverages contain no sugar per container or serving, or drinking water is available at no cost.
- c. Non-beverage food items (except whole fruit) do not contain more than 25 g of sugar per serving.<sup>557</sup>

### Part 2 Promote Whole Grains (Max: 0 Pt)

*For All Spaces:*

Grain-based foods are sold or provided by (or under contract with) the project owner on a daily basis and meet the following requirements:

- a. In at least 50% of grain-based foods (foods that have a grain flour as the first ingredient or that contain  $\geq 30\%$  grain ingredients), a whole grain is the first ingredient.<sup>571</sup>
- b. If both whole-grain and refined-grain options are available, whole-grain options do not cost more than their refined-grain counterparts (e.g., brown rice does not cost more than white rice).

**Note:**

Projects must have at least one whole-grain option at each food outlet (if grain-based foods are sold or provided) but the 50% calculation may be considered across the entire food service operation (per food category or total number of grain-based foods).

## ES07 ACCOMMODATE FOOD SENSITIVITIES | O (MAX: 1 PT)

**Intent:** Help individuals make informed food choices through labeling of food allergies and intolerances.

**Summary:** This WELL feature requires the accommodation of special diets, the labeling of food allergens and the availability of allergy training for food service staff.

**Issue:** Nutrition information panels and nutrition fact labels are often found on packaged foods and beverages. These provide consumers with useful information including allergen identification. However, the same level of nutritional transparency does not exist for freshly prepared foods and beverages available in restaurants or other retail establishments. Nutritional transparency is especially important for the millions of individuals worldwide who manage food allergies and intolerances.<sup>572</sup> The World Allergy Organization reports that the prevalence of food allergies is increasing in countries around the world.<sup>573</sup> Approximately 5.6 million children under 18 in the United States have food allergies requiring vigilance at meal time to prevent adverse allergic reactions.<sup>574</sup> Moreover, nursing mothers may need to avoid specific foods, such as dairy, if their infant exhibits an allergic reaction to exposure through the breastmilk.<sup>575</sup> Additionally, a review of international studies suggests that nearly half of people with autism suffer from gastrointestinal issues which may, in part, be due to increased gut permeability or "leaky gut".<sup>576</sup> This condition may be improved through the avoidance of food components that are suspected to weaken the intestinal barrier such as gliadin, a protein found in wheat and other cereal grains.<sup>577</sup>

**Solutions:** Food service professionals can play a critical role in making all spaces safer and more inclusive for individuals with food allergies and intolerances by helping them navigate food choices. Food allergy training helps enable all food service staff to identify and address potential food allergens and intolerances. Ingredient transparency through accurate food allergen labeling can help individuals identify and avoid potential allergens. Providing meal alternatives that avoid common food allergies or intolerances can help accommodate individual dietary preferences and ensure that everyone has the opportunity to eat a balanced meal. Alternatives can also minimize the stress and worry faced by individuals with food and dietary restrictions by minimizing the risk of consuming potentially harmful foods.<sup>578</sup> To further accommodate special dietary needs, alternative food items can be offered at the same or similar price as standard items.

### Part 1 Address Food Allergens (Max: 1 Pt)

*For Commercial Kitchen Spaces:*

Food is prepared on-site by (or under contract with) the project owner on a daily basis and the following requirements are met:

- a. All food service staff (including managers, servers and kitchen staff) are offered annual food allergy training that covers, at a minimum, the following topics:<sup>574</sup>
  1. Overview of food allergies.
  2. Anaphylaxis response protocols.
  3. Emergency response protocols.
  4. Communications protocols.
  5. Reducing risk for cross-contact.
  6. Use of recipes and ingredient disclosure.
  7. Knowledge test.
- b. At least one food service staff member who has completed the food allergy training within 12 months is present to handle questions and special requests from individuals about food allergens during hours of operation.

Food is prepared on-site by (or under contract with) the project owner on a daily basis and the following requirement is met:

- a. Point-of-decision signage is present to encourage individuals to report their food allergies to food service staff.

### Part 2 Accommodate Special Diets (Max: 0 Pt)

*For All Spaces:*

Meals with main dishes are sold or provided by (or under contract with) the project owner on a daily basis and include at least one option that meets the following requirements:

- a. Does not contain peanut and tree nuts.
- b. Does not contain gluten and wheat.
- c. Does not contain soy.
- d. Does not contain sesame.
- e. Does not contain animal products, including seafood, dairy, and eggs.

### Part 3 Label Food Allergens and Intolerances (Max: 0 Pt)

*For All Spaces:*

Foods and beverages are sold or provided by (or under contract with) the project owner and all foods and beverages are clearly labeled at point-of-decision (e.g., on packaging, menus, signage) to indicate if they contain the following common food allergens and intolerances:<sup>579</sup>

- a. Peanut.
- b. Fish.
- c. Shellfish.
- d. Soy.
- e. Milk.
- f. Egg.
- g. Wheat.
- h. Tree nuts.
- i. Sesame.
- j. Gluten.

## COMMUNITY ENGAGEMENT (EC)

The Community Engagement action area aims to promote interaction, inclusion and access for all community members and stakeholders.

Employees are increasingly seeking out organizations that have a culture of community engagement and social responsibility that supports the broader community in which the organization operates. Millennials, for example, represent a significant segment of the workforce, yet an international survey found that 25% were planning to quit their current employer in the next year due to the perception that their company's goals do not extend beyond profit.<sup>580</sup> Many organizations make public statements indicating their support of marginalized populations, but a statement without action is not deemed sufficient by those populations. Community engagement requires both transparency and action, especially in the realms of racial justice, immigration policy and LGBTQ+ rights.<sup>581,582</sup> Meaningful action, such as scheduling volunteer opportunities, providing paid volunteer time off, matching employee charitable contributions and working with local community organizations, can make a positive contribution to the local community, help foster an organizational culture of social responsibility and enhance employee retention.<sup>580,583-585</sup> Conversely, companies that do not demonstrate strong, outward social values have been shown to experience lower employee morale, engagement and productivity.<sup>585</sup>

Effective community engagement leverages tools that value diversity, equity and inclusion.<sup>586,587</sup> Such engagement should include consideration of the ways in which specific ethnic and racial populations within a community have historically been marginalized, abused, neglected and erased due to unjust power dynamics, laws and treaties. Many buildings are situated in communities whereby the rightful, sacred lands were taken against the will of its original stewards and/or were developed through forced labor.<sup>588-590</sup> Currently, there is still little acknowledgement of this history, which predominantly impacts populations of color, such as Asian and African Americans in the United States, as well as Indigenous peoples in Australia, New Zealand and across North America.<sup>589-597</sup> These harmful practices have caused detrimental physical, mental, emotional and economic impacts that have been passed down through generations; they have created displacement, lost histories and a breakdown of community social and economic structures.<sup>588,595,598,599</sup> Organizations should work in partnership with those who have been impacted to acknowledge and take steps toward reconciling these past harms. This community-centered approach can encourage healing and connection, grounded in place.<sup>600-604</sup>

Lastly, families unable to find affordable housing spend a significant portion of their income on housing costs, leaving insufficient resources to cover other basic needs such as food, clothing, utilities and medical care.<sup>605-607</sup> Providing affordable housing units helps reconcile the many inequities that prevent individuals from having access to healthy, safe and stable housing.

## EC01 ENGAGE COMMUNITY | O (MAX: 1 PT)

**Intent:** Promote involvement in and connection with the surrounding community through volunteerism and community programming.

**Summary:** This WELL feature requires promoting a variety of community engagement opportunities, including programs and events.

**Issue:** Companies that do not demonstrate strong social values through civic engagement, like community volunteering, have been shown to experience lower employee morale, engagement and productivity.<sup>585</sup> It is estimated that 1 billion people worldwide volunteer their time, and many people focus primarily on issues that impact them and their local communities.<sup>608</sup> Decreased community connection can lead to increased mental health issues, and volunteering is suggested as one remedy.<sup>311,609,610</sup> Additionally, millennials represent an increasingly large segment of the workforce, yet an international survey found that one in four millennials planned to quit their current job in the next year due to the perception that their company's goals do not extend beyond profit.<sup>580</sup> Public statements are not enough to demonstrate support of marginalized populations; civic engagement efforts need to be transparent and action-oriented, especially when considering racial justice, immigration policy and LGBTQ+ rights.<sup>581,582</sup>

**Solutions:** There are a variety of ways to increase opportunities for civic engagement and establish a culture of social responsibility. Scheduling volunteer opportunities, providing paid volunteer time off, matching employee charitable contributions and working with local community organizations can foster a culture of social responsibility, enhance employee retention and make a positive contribution to the local community.<sup>580,583-585</sup>

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project or organization has a policy that meets at least two of the following requirements:

- a. All eligible employees are given the option to take paid time off to participate in volunteer activities for at least the equivalent of two workdays annually (separate from vacation, sick or other generally allocated paid time off).
- b. A list of local volunteer opportunities is provided to all employees, with at least one suitable opportunity per month and at least eight hours organized by the employer with a registered charity or non-profit.
- c. Employer matches employee's contributions to a registered charity or non-profit of employee's choice, up to a maximum annual amount defined by the employer.
- d. At least one community engagement program (e.g. events, talks, workshops, trainings or other public engagement intended to promote education, play, physical activity, social connection and/or well-being) at no cost to the public on a quarterly basis on- or off-site.<sup>609,611,612</sup>

## EC02 PROVIDE COMMUNITY SPACE | O (MAX: 1 PT)

**Intent:** Promote connection to the surrounding community by providing public spaces and community programming.

**Summary:** This WELL feature requires providing the surrounding community with a public space.

**Issue:** Research reveals a decline in community social support and relationships, and people who feel disconnected from their community encounter more mental health issues than those with a strong community connection.<sup>311,609,610</sup> A strong sense of community is associated with improved well-being, civic responsibility and increased feelings of safety and security.<sup>610</sup> Having access to quality public spaces helps foster community connectedness and is a powerful measure for enhancing equity, encourage inclusion and fight discrimination.<sup>615</sup> Yet, on average, only about 31% of the global population is within walking distance of a public space.<sup>614</sup> It is more challenging for vulnerable populations to access public spaces, contributing to social isolation; people with disabilities often face physical barriers while people in Black communities may feel unsafe in places where crime is prevalent.<sup>615,616</sup>

**Solutions:** Public space and community programming can encourage social interaction and cohesion, community empowerment and collective feelings of ownership.<sup>609,610,617</sup> This helps reduce community health risks like stress, depression, heart disease, stroke and chronic disease and helps to improve physical and mental health, happiness and healthy behaviors.<sup>609,610,617-620</sup>

### Part 1 Part 1 (Max: 1 Pt)

#### For All Spaces:

The project designates outdoor or indoor space for public use at no cost that meets the following requirements:

- a. At least  $\{(well-unit)\}2,000\text{ ft}^2\{186\text{ m}^2\{(well-unit)\}$ .<sup>621</sup>
- b. Open at all times, unless closed for security purposes (e.g., during nighttime hours) or temporarily for special events.<sup>621</sup>
- c. Signage or other communication clearly indicates hours the space is open and the designation for public use.<sup>621</sup>
- d. Provides quality seating areas and is easily navigable for individuals of all abilities.<sup>173,621</sup>

OR-----

One or more indoor or outdoor spaces within the project boundary are open for public convenings (e.g., local community groups, student clubs, non-profit organizations) at no cost that meets the following requirements:

- a. Has the capacity to hold at least 10 people.
- b. Is available for meetings and/or events (e.g., pop-up health services, community meetings) on a weekly basis, at a minimum.<sup>609,611,612</sup>

## EC03 HISTORICAL ACKNOWLEDGEMENT | O (MAX: 1 PT)

**Intent:** To acknowledge and honor historical rights, ownership and occupation of land and/or recognize significant societal contributions of marginalized communities.

**Summary:** This WELL feature requires projects to develop a comprehensive program that acknowledges the history of colonization, displacement and relocation and/or the significant contributions that Indigenous, enslaved and migrant peoples have made to a particular place.

**Issue:** Specific ethnic and racial populations have historically been colonized, enslaved, marginalized, abused and neglected (for the purposes of this feature, collectively referred to as "marginalized" communities), with the threat of erasure due to imperial power dynamics, laws and decrees across the globe. These communities were the original stewards of land and biodiversity for millennia, making significant contributions to society through traditional and ancient knowledge.<sup>588-590</sup> On a global scale, Indigenous Peoples and people across the African diaspora have witnessed their rightful and sacred lands being taken against their will through Doctrine of Discovery, broken agreements, and abuse of eminent domain and legal constructs such as heirs' property laws.<sup>594,597,622</sup> In the United States, communities of color, such as Asian and African Americans, have made significant contributions to the building of the country through forced and unjust labor.<sup>589,590</sup> In addition, significant contributions through forced labor have occurred in South America and the Caribbean region.<sup>591-594</sup> The harmful impacts of global colonization have led to disparities in physical, mental, emotional and economic well-being, long-term displacement, erased histories, and a breakdown of community, social and economic structures, the effects of which have passed down through generations.<sup>588,595,598,599</sup> Studies have shown this has caused historical trauma and that the mental health of Indigenous youth still suffers on the Historical Loss Scale.<sup>523</sup> This intergenerational trauma has been found in DNA at the cellular level.<sup>524</sup> In Australia, New Zealand and North America, recent truth and reconciliation acknowledgments, laws and reparations have begun for Indigenous People who have suffered various human rights violations, including land rights abuse and attempted genocide.<sup>595-597</sup> It is important that organizations work with representatives from within the affected community and/or Tribal Nation to ensure that their acknowledgement and reconciliation and/or reparations programs do no harm, as defined by the community.

**Solutions:** This feature seeks to acknowledge and begin reconciliation for at least a portion of the valuable contributions from affected populations by encouraging healing and connection that is grounded in place and culturally-relevant values.<sup>600-604</sup> The act of reconciliation illuminates and drives awareness of historical contributions of marginalized and colonized communities through action and future-facing programs (i.e., land acknowledgments, truth and reconciliation practices, empowerment programs, financial relief and economic development).

### Part 1 Part 1 (Max: 1 Pt)

#### For All Spaces:

The project or organization develops and implements a comprehensive historical acknowledgment program that meets the following requirements:

- a. Identify a historically marginalized community to acknowledge by reviewing land deeds, historical records, census data or other credible sources (e.g., articles, websites, surveys).
- b. Conduct an assessment to determine if any of the organization's current practices or policies are harmful to the community receiving acknowledgment, including, at a minimum, the following:
  1. Discriminatory and harmful labor practices and the implicit biases, policies and structures that lead to them, including those impacting consultants and subcontractors (e.g., collaborative partnerships that may cause representational damage, poor working conditions, participation in modern slavery and privatized prison labor, salary inequity, discriminatory hiring practices and/or inequitable representation in leadership).
  2. Occupancy on sacred land (e.g., burial sites, spiritual sites), land protected treaty or agreement (e.g., hunting and gathering rights), or seized land (e.g., by use of eminent domain).
  3. Practices that negatively impact all life and the environment, especially those in closest proximity to the project site (e.g., pollution, deforestation, poor waste management practices).
- c. Create a program for historical acknowledgement that:
  1. Is informed by members and leaders of the community and/or Tribal Nation, as identified through one or more meetings with community representatives.
  2. Acknowledges the beliefs and practices of the community and/or Tribal Nation.
  3. Promotes engagement including reconciliation and/or reparations (as applicable) between the organization and the community and/or Tribal Nation.
  4. Identifies a minimum three-year plan of action for how the organization will develop a meaningful relationship with the community and/or Tribal Nation that will benefit the community (e.g., employment incubator, mental health support, funding agreement, education opportunities, returning land or property).
  5. Includes a signed document acknowledging the partnership demonstrating the program was co-created between the organization and the community and/or Tribal Nation.
- d. Develop a communication plan in a physical or electronic format that provides:
  1. Education for employees and the general public about the community and/or Tribal Nation's historical contribution to society.
  2. Background on the historical acknowledgement program and its development, as well as opportunities for employees to engage with the plan of action.
- e. Express historical context publicly through at least one of the following methods:
  1. Mission statement
  2. Monument
  3. Proclamation
  4. Educational display
  5. Plaque
  6. Website
  7. Restoration of Indigenous names of landmarks
  8. Other expressions of historical acknowledgement

#### Note:

This feature is a beta strategy and has an additional documentation requirement (beta feature feedback form). The feedback form supports IWBI in developing new features that are effective and applicable to projects around the world.

## EC04 ALLOCATE AFFORDABLE HOUSING | O (MAX: 2 PT)

**Intent:** Promote housing equity through the allocation of affordable housing units.

**Summary:** This WELL feature requires the creation of affordable housing units to reduce housing costs for low-income tenants and offer multi-bedroom options.

**Issue:** Families unable to find affordable housing spend a significant portion of their income on housing costs, leaving insufficient resources to cover other basic needs such as food, clothing, utilities and medical care.<sup>605-607</sup> Across the European Union, Japan, Australia and the United States, over 60 million households are financially strained by housing costs.<sup>625</sup> With lack of access to affordable housing, many families live in substandard housing, which exposes them to mold, dust, water leaks, lead-based paint, poor air quality, temperature extremes and/or vermin. These living conditions can lead to poor health outcomes like asthma, infectious disease, cardiovascular events and, for children, nervous system damage.<sup>605-607,626,627</sup> In 2016, only 3.2 million designated affordable housing units were available for the 10.4 million extremely low-income households in the United States; in India, there is a deficit of 11 million affordable units.<sup>628,629</sup> In rural England, only 8% of housing stock is affordable compared to 20% in urban areas based on percentage of earnings.<sup>630</sup> Affordable housing shortages lead to homelessness, which increases stress, substance use and morbidity in adults, as well as mental health issues and depression in youth.<sup>607,626,631</sup>

**Solutions:** Increasing the affordability, quality and safety of housing improves resident health, feelings of security and self-esteem and increases developmental ability and nutrition levels in children.<sup>607,627</sup> Providing access to those in need of affordable housing can help prevent communicable diseases, improve overall health and provide a stable and efficient platform for the delivery of food, healthcare and essential services, especially for vulnerable populations such as the elderly, children and individuals with chronic illnesses or disabilities.<sup>605,626,627,631,632</sup> Providing affordable units that are functionally indistinguishable from other units in the same building can help owners avoid the stigmatization of those who are living in them.<sup>633</sup> With rising urbanization, healthy affordable housing will be critical for community health promotion.<sup>634</sup>

### Part 1 Part 1 (Max: 2 Pt)

#### For Dwelling Units:

The project meets the following requirements:

- a. A percentage of units are allocated for tenants whose incomes are at or below an income limit relative to the local median household income [e.g., Area Median Income (AMI)] and adjusted for family size. Recognition is awarded as per the selected tier in the table below:

Tier	Units Allocated and Income Limited	Point Value
1	20% of units or more, 0 - 50% of local median OR 40% of units or more, 51 - 80% of local median	1 point
2	100% of units, 0 - 80% of local median	2 points

- b. Total annual housing costs (i.e., rent and utilities) paid by affordable unit tenants are less than 30% of the income limit selected in requirement (a).
- c. Housing costs are maintained at the levels described in this feature for the duration of a project's engagement with WELL.
- d. Affordable housing units are not visually or functionally distinctive from market-rate units (if present) and have the same access point into the building.
- e. In projects with 10 or more affordable housing units, at least 50% of allocated units have two or more bedrooms and at least 10% of allocated units have three or more bedrooms.

**Note:**

This feature is a beta strategy and has an additional documentation requirement (beta feature feedback form). The feedback form supports IWBI in developing new features that are effective and applicable to projects around the world.

## INNOVATION

The Innovation action area paves the way for projects to develop unique strategies for creating healthier, more equitable environments.

Projects are invited to submit innovation proposals that address a novel strategy not already included within the WELL features. Projects should use Feature I01: Innovate WELL to submit innovation proposals, which outlines what must be met for a novel strategy to be considered for approval.

Other Innovation features represent strategies that have been pre-approved by IWBI.

## EI01 INNOVATION I | O (MAX: 1 PT)

**Intent:** Facilitate novel approaches to creating equitable, people-first places and celebrate leadership among projects.

**Summary:** As the scientific understanding of health equity continues to evolve, so too does the ability to address the complex issue of promoting health and well-being through building design and operations. WELL Innovation features embrace novel approaches to promoting the creation of healthier spaces that go above and beyond WELL features.

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project submits a proposal that meets the following requirements:

- a. Positively impacts project occupants by supporting diversity, equity and inclusion of a marginalized population in a novel way not covered in the WELL Equity Rating.
- b. Substantiated by existing scientific, medical and/or industry research.
- c. Consistent with applicable laws and regulations as well as leading practices in organizational policies or building design and operations.

OR-----

At least one member of the project team meets the following requirements:

- a. Has achieved the [Reference](#).
- b. Maintains accreditation at least until the project's initial rating is achieved.

OR-----

The project meets at least one of the following requirements:

- a. The project is WELL Precertified. This strategy may be used for one Innovation feature.
- b. The project has achieved a WELL Rating. This strategy may be used for one Innovation feature.
- c. The project is WELL Certified. This strategy may be used for three Innovation features.

OR-----

The following requirements are met:

- a. The project achieves at least one of the following features:
  1. Feature EE1: Create DEI Assessment and Action Plan.
  2. Feature EE2: Incorporate Integrative Design.
- b. The project achieves any part in an optimization feature or entire precondition feature in the WELL Standard which is not already included in the WELL Equity Rating.
- c. The project team submits a narrative which describes how the information collected through the pursuit of Feature EE1 or EE2 informed their feature selection.

## EI02 INNOVATION II | O (MAX: 1 PT)

**Intent:** Facilitate novel approaches to creating equitable, people-first places and celebrate leadership among projects.

**Summary:** As the scientific understanding of health equity continues to evolve, so too does the ability to address the complex issue of promoting health and well-being through building design and operations. WELL Innovation features embrace novel approaches to promoting the creation of healthier spaces that go above and beyond WELL features.

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project submits a proposal that meets the following requirements:

- a. Positively impacts project occupants by supporting diversity, equity and inclusion of a marginalized population in a novel way not covered in the WELL Equity Rating.
- b. Substantiated by existing scientific, medical and/or industry research.
- c. Consistent with applicable laws and regulations as well as leading practices in organizational policies or building design and operations.

OR-----

The project meets at least one of the following requirements:

- a. Has achieved the [Reference](#).
- b. Maintains accreditation at least until the project's initial rating is achieved.

OR-----

The project meets at least one of the following requirements:

- a. The project is WELL Precertified. This strategy may be used for one Innovation feature.
- b. The project has achieved a WELL Rating. This strategy may be used for one Innovation feature.
- c. The project is WELL Certified. This strategy may be used for three Innovation features.

OR-----

The following requirements are met:

- a. The project achieves at least one of the following features:
  1. Feature EE1: Create DEI Assessment and Action Plan.
  2. Feature EE2: Incorporate Integrative Design.
- b. The project achieves any part in an optimization feature or entire precondition feature in the WELL Standard which is not already included in the WELL Equity Rating.
- c. The project team submits a narrative which describes how the information collected through the pursuit of Feature EE1 or EE2 informed their feature selection.

## EI03 INNOVATION III | O (MAX: 1 PT)

**Intent:** Facilitate novel approaches to creating equitable, people-first places and celebrate leadership among projects.

**Summary:** As the scientific understanding of health equity continues to evolve, so too does the ability to address the complex issue of promoting health and well-being through building design and operations. WELL Innovation features embrace novel approaches to promoting the creation of healthier spaces that go above and beyond WELL features.

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project submits a proposal that meets the following requirements:

- a. Positively impacts project occupants by supporting diversity, equity and inclusion of a marginalized population in a novel way not covered in the WELL Equity Rating.
- b. Substantiated by existing scientific, medical and/or industry research.
- c. Consistent with applicable laws and regulations as well as leading practices in organizational policies or building design and operations.

OR-----

At least one member of the project team meets the following requirements:

- a. Has achieved the [Reference](#).
- b. Maintains accreditation at least until the project's initial rating is achieved.

OR-----

The project meets at least one of the following requirements:

- a. The project is WELL Precertified. This strategy may be used for one Innovation feature.
- b. The project has achieved a WELL Rating. This strategy may be used for one Innovation feature.
- c. The project is WELL Certified. This strategy may be used for three Innovation features.

OR-----

The following requirements are met:

- a. The project achieves at least one of the following features:
  1. Feature EE1: Create DEI Assessment and Action Plan.
  2. Feature EE2: Incorporate Integrative Design.
- b. The project achieves any part in an optimization feature or entire precondition feature in the WELL Standard which is not already included in the WELL Equity Rating.
- c. The project team submits a narrative which describes how the information collected through the pursuit of Feature EE1 or EE2 informed their feature selection.

## EI04 INNOVATION IV | O (MAX: 1 PT)

**Intent:** Facilitate novel approaches to creating equitable, people-first places and celebrate leadership among projects.

**Summary:** As the scientific understanding of health equity continues to evolve, so too does the ability to address the complex issue of promoting health and well-being through building design and operations. WELL Innovation features embrace novel approaches to promoting the creation of healthier spaces that go above and beyond WELL features.

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project submits a proposal that meets the following requirements:

- a. Positively impacts project occupants by supporting diversity, equity and inclusion of a marginalized population in a novel way not covered in the WELL Equity Rating.
- b. Substantiated by existing scientific, medical and/or industry research.
- c. Consistent with applicable laws and regulations as well as leading practices in organizational policies or building design and operations.

OR-----

At least one member of the project team meets the following requirements:

- a. Has achieved the [Reference](#).
- b. Maintains accreditation at least until the project's initial rating is achieved.

OR-----

The project meets at least one of the following requirements:

- a. The project is WELL Precertified. This strategy may be used for one Innovation feature.
- b. The project has achieved a WELL Rating. This strategy may be used for one Innovation feature.
- c. The project is WELL Certified. This strategy may be used for three Innovation features.

OR-----

The following requirements are met:

- a. The project achieves at least one of the following features:
  1. Feature EE1: Create DEI Assessment and Action Plan.
  2. Feature EE2: Incorporate Integrative Design.
- b. The project achieves any part in an optimization feature or entire precondition feature in the WELL Standard which is not already included in the WELL Equity Rating.
- c. The project team submits a narrative which describes how the information collected through the pursuit of Feature EE1 or EE2 informed their feature selection.

## EI05 INNOVATION V | O (MAX: 1 PT)

**Intent:** Facilitate novel approaches to creating equitable, people-first places and celebrate leadership among projects.

**Summary:** As the scientific understanding of health equity continues to evolve, so too does the ability to address the complex issue of promoting health and well-being through building design and operations. WELL Innovation features embrace novel approaches to promoting the creation of healthier spaces that go above and beyond WELL features.

### Part 1 Part 1 (Max: 1 Pt)

*For All Spaces:*

The project submits a proposal that meets the following requirements:

- a. Positively impacts project occupants by supporting diversity, equity and inclusion of a marginalized population in a novel way not covered in the WELL Equity Rating.
- b. Substantiated by existing scientific, medical and/or industry research.
- c. Consistent with applicable laws and regulations as well as leading practices in organizational policies or building design and operations.

OR-----

At least one member of the project team meets the following requirements:

- a. Has achieved the [Reference](#).
- b. Maintains accreditation at least until the project's initial rating is achieved.

OR-----

The project meets at least one of the following requirements:

- a. The project is WELL Precertified. This strategy may be used for one Innovation feature.
- b. The project has achieved a WELL Rating. This strategy may be used for one Innovation feature.
- c. The project is WELL Certified. This strategy may be used for three Innovation features.

OR-----

The following requirements are met:

- a. The project achieves at least one of the following features:
  1. Feature EE1: Create DEI Assessment and Action Plan.
  2. Feature EE2: Incorporate Integrative Design.
- b. The project achieves any part in an optimization feature or entire precondition feature in the WELL Standard which is not already included in the WELL Equity Rating.
- c. The project team submits a narrative which describes how the information collected through the pursuit of Feature EE1 or EE2 informed their feature selection.

## EI06 GATEWAYS TO DEI | O (MAX: 5 PT)

**Intent:** Recognize projects that have taken meaningful steps toward deeper commitments to diversity, equity and inclusion (DEI).

**Summary:** WELL aligns with leading rating systems and programs that support equitable, people-first places. Various independent programs support similar and aligned goals of maintaining the health, safety and well-being of individuals and communities. IWBI awards credit to projects that achieve these programs in an effort to recognize their leadership and commitment to these issues.

### Part 1 Part 1 (Max: 5 Pt)

*For All Spaces:*

The following requirements are met:

- a. The project or organization participates in an approved third-party certification or reporting program listed on [Reference](#).
- b. Results are made publicly available on-site and/or on the organization's website.

## APPENDIX 1:

1. Wronski L. SurveyMonkey Workforce Happiness Index. CNBC. Published 2021. Accessed September 2, 2022. <https://www.surveymonkey.com/curiosity/cnbc-workforce-survey-april-2021/>
2. Brown K. To Retain Employees, Focus on Inclusion — Not Just Diversity. Harvard Business Review. Published 2018. Accessed September 2, 2022. <https://hbr.org/2018/12/to-retain-employees-focus-on-inclusion-not-just-diversity>
3. Hewlett SA, Marshall M, Sherbin L. How Diversity Can Drive Innovation. Harvard Business Review. Published 2013. Accessed September 2, 2022. <https://hbr.org/2013/12/how-diversity-can-drive-innovation>
4. Richard OC, Del Carmen Triana M, Li M. The Effects of Racial Diversity Congruence between Upper Management and Lower Management on Firm Productivity. <https://doi.org/10.5465/amj.20190468>. 2021;64(5):1355-1382. doi:10.5465/AMJ.2019.0468
5. Hunt V, Prince S, Dixon-Fyle S, Yee L. Delivering through Diversity Contents Executive summary. Published online 2018.
6. Braveman P, Arkin E, Orleans T, Proctor D, Plough A. What is Health Equity? A Definition and Discussion Guide. Robert Wood Johnson Foundation. Accessed March 18, 2022. <https://www.rwjf.org/en/library/research/2017/05/what-is-health-equity-.html>
7. Milken Institute School of Public Health. Equity vs. Equality: What's the Difference? | Online Public Health. Accessed March 18, 2022. <https://onlinepublichealth.gwu.edu/resources/equity-vs-equality/>
8. Earl E. Bakken Center for Spirituality & Healing. Wellbeing | Center for Spirituality and Healing - University of Minnesota. Accessed March 18, 2022. <https://www.csh.umn.edu/about-us/wellbeing>
9. Dictionary.com. Dei Definition & Meaning. Accessed May 16, 2022. <https://www.dictionary.com/browse/dei>
10. Maehler DB, Daikeler J, Ramos H, Husson C, Nguyen T an. The cultural identity of first-generation immigrant children and youth: Insights from a meta-analysis. <https://doi.org/10.1080/1529886820201765857>. 2020;20(6):715-740. doi:10.1080/15298868.2020.1765857
11. The Center. Defining LGBTQ. Accessed March 18, 2022. <https://gaycenter.org/about/lgbtq/>
12. The Bipoc Project. The BIPOC Project. Accessed March 18, 2022. <https://www.thebipocproject.org/>
13. Mel Planet Neurodivergent Admin. Neurodiversity: Some Basic Terms & Definitions. Planet Neurodivergent. Published 2021. Accessed March 18, 2022. <https://www.planetneurodivergent.com/neurodiversity-and-neurodivergent-basic-terminology/>
14. United Spinal Association. Home - United Spinal Association. Accessed March 18, 2022. <https://unitedspinal.org/>
15. US Centers for Disease Control and Prevention. Caregiving for Family and Friends — A Public Health Issue. Published 2019. Accessed March 18, 2022. <https://www.cdc.gov/aging/caregiving/caregiver-brief.html>
16. MacQueen KM, McLellan E, Metzger DS, et al. What is community? An evidence-based definition for participatory public health. *Am J Public Health*. 2001;91(12):1929-1938. doi:10.2105/AJPH.91.12.1929
17. U.S. Environmental Protection Agency. Creating Equitable, Healthy, and Sustainable Communities: Strategies for Advancing Smart Growth, Environmental Justice, and Equitable Development. Published online 2013.
18. Gochfeld M, Burger J. Disproportionate Exposures in Environmental Justice and Other Populations: The Importance of Outliers. *Am J Public Health*. 2011;101. doi:10.2105/AJPH
19. D'Alessandro R. Employee Feedback System: How to Get Started - Qualtrics. Accessed August 25, 2022. <https://www.qualtrics.com/blog/employee-feedback-system/>
20. Big Lottery Fund. Community Planning Toolkit - Community Engagement.; 2014. <https://www.communityplanningtoolkit.org/>
21. Ivanaj V, Shrivastava P, Ivanaj S. The value of beauty for organizations. *J Clean Prod*. 2018;189. doi:10.1016/j.jclepro.2018.04.122
22. Health Enhancement Research Organization, American College of Occupational and Environmental Medicine, Care Continuum Alliance. Biometric Health Screening for Employers. *J Occup Environ Med*. 2013;55(10):1244-1251. doi:10.1097/JOM.0b013e3182a7e975
23. Heylighen A. About the nature of design in universal design. *Disabil Rehabil*. 2014;36(16):1360-1368. doi:10.3109/09638288.2014.932850
24. Frontczak M, Schiavon S, Goins J, Arens E, Zhang H, Wargocki P. Quantitative relationships between occupant satisfaction and satisfaction aspects of indoor environmental quality and building design. *Indoor Air*. 2012;22(2):119-131. doi:10.1111/j.1600-0668.2011.00745.x
25. Turpin-Brooks S, Viccars G. The development of robust methods of post occupancy evaluation. *Facilities*. 2006;24(5-6):177-196. doi:10.1108/02632770610665775
26. Frankfort-Nachmias C, Nachmias D, DeWaard J. Research Methods in the Social Sciences. In: 8th ed. Worth Publishers; 2015.
27. Agha-Hosseini MM, El-Jouzi S, Elmualim AA, Ellis J, Williams M. Post-occupancy studies of an office environment: Energy performance and occupants' satisfaction. *Build Environ*. 2013;69:121-130. doi:10.1016/j.buildenv.2013.08.003
28. Leaman A, Stevenson F, Bordass B. Building evaluation: Practice and principles. *Build Res Inf*. 2010;38(5):564-577. doi:10.1080/09613218.2010.495217
29. Engelen L, Dhillon HM, Chau JY, Hespe D, Bauman AE. Do active design buildings change health behaviour and workplace perceptions? *Occup Med (Chic Ill)*. 2016;66(5):408-411. doi:10.1093/occmed/kqv213
30. Zallio M, Clarkson PJ. On Inclusion, Diversity, Equity, and Accessibility in Civil Engineering and Architectural Design. A Review of Assessment Tools. Published online 2021:16-20. doi:10.1017/pds.2021.491
31. Loeppke R. Biometric Health Screening for Employers: Consensus Statement of the Health Enhancement Research Organization, American College of Occupational and Environmental Medicine, and Care Continuum Alliance. *J Occup Environ Med*. 2013;55(10):1244-1251. doi:10.1097/JOM.0b013e3182a7e975
32. Roller MR, Lavrakas PJ. Strengths of the Focus Group Method: An Overview | Research Design Review. Accessed May 2, 2022. <https://researchdesignreview.com/2020/10/30/strengths-focus-group-method-overview/>
33. Baicker K, Cutler D, Song Z. Workplace wellness programs can generate savings. *Health Aff (Millwood)*. 2010;29(2):304-311. doi:10.1377/hlthaff.2009.0626
34. Hunt V, Prince S, Dixon-Fyle S, Yee L. Delivering Through Diversity. McKinsey & Company; 2018. [https://www.mckinsey.com/~media/mckinsey/business-functions/people-and-organizational-performance/our-insights/delivering-through-diversity/delivering-through-diversity\\_full-report.pdf](https://www.mckinsey.com/~media/mckinsey/business-functions/people-and-organizational-performance/our-insights/delivering-through-diversity/delivering-through-diversity_full-report.pdf)
35. The B Team. Diversity: Bringing the Business Case to Life.; 2015. <https://bteam.org/our-thinking/news/diversity-bringing-the-business-case-to-life>
36. Yarber A. A Primer on Diversity. AdvanceGeo Partnership. Accessed August 26, 2022. [https://serc.carleton.edu/advancegeo/resources/what\\_diversity.html](https://serc.carleton.edu/advancegeo/resources/what_diversity.html)
37. The B Team. The Diversity Paradox: Capturing the Value of Difference by Looking Beyond the Numbers. The B Team; 2015.
38. United Nations. Disability and Employment. Accessed August 26, 2022. <https://www.un.org/development/desa/disabilities/resources/factsheet-on-persons-with-disabilities/disability-and-employment.html>
39. Bachmann CL, Gooch B. LGBT in Britain - Work Report.; 2018.
40. Fernandez C, Zallio M, Berry D, Mcgrory J; Towards a People-First Engineering Design Approach. A Comprehensive Ontology for Designing Inclusive

Environments. Published online 2021:16-20. doi:10.1017/pds.2021.579

41. Centers for Disease Control and Prevention. The CDC Worksite Health ScoreCard: An Assessment Tool for Employers to Prevent Heart Disease, Stroke, and Related Health Conditions. Published online 2014.
42. Zallio M, Clarkson PJ. Inclusion, diversity, equity and accessibility in the built environment: A study of architectural design practice. *Build Environ.* 2021;206:108352. doi:10.1016/J.BUILDENV.2021.108352
43. Geng Y, Ji W, Lin B, Zhu Y. The impact of thermal environment on occupant IEQ perception and productivity. *Build Environ.* 2017;121:158-167. doi:10.1016/J.BUILDENV.2017.05.022
44. Schrah G. Employee Pulse Study: How happy is the US workforce? | Qualtrics. Qualtrics Global Employee Pulse.
45. Souza AC de, Alexandre NMC, Guirardello E de B, Souza AC de, Alexandre NMC, Guirardello E de B. Propriedades psicométricas na avaliação de instrumentos: avaliação da confiabilidade e da validade. *Epidemiol e Serviços Saúde.* 2017;26(3):649-659. doi:10.5123/S1679-49742017000300022
46. McHorney CA, Ware JE, Raczek AE. The MOS 36-item short-form health survey (Sf-36): II. Psychometric and clinical tests of validity in measuring physical and mental health constructs. *Med Care.* 1993;31(3):247-263. doi:10.1097/00005650-199303000-00006
47. Elijah-Barnwell S, Friedow B. Development and Psychometric Testing of a Post-Occupancy Evaluation. *HERD Heal Environ Res Des J.* 2014;8(1):115-121. doi:10.1177/193758671400800109
48. Higgins C, Lyons S, Duxbury L. Reducing Work-Life Conflict: What Works? What Doesn't?
49. Hebert PR, Chaney S. Using end-user surveys to enhance facilities design and management. *Facilities.* 2012;30(11):458-471. doi:10.1108/02632771211252306
50. Graham L t., parkinson T, schiavon S. Lessons learned from 20 years of CBE's occupant surveys. *Build Cities.* 2021;2(1):166-184. doi:10.5334/BC.76/
51. Mustafa FA. Performance assessment of buildings via post-occupancy evaluation: A case study of the building of the architecture and software engineering departments in Salahaddin University-Erbil, Iraq. *Front Archit Res.* 2017;6(3):412-429. doi:10.1016/j.foar.2017.06.004
52. Hebert PR, Chaney S. Using end-user surveys to enhance facilities design and management. *Facilities.* 2012;30(11/12):458-471. doi:10.1108/02632771211252306
53. Ryba K. How to Run a Focus Group: Employee Focus Group Best Practices. Accessed August 25, 2022. <https://www.quantumworkplace.com/future-of-work/employee-focus-groups-your-superpower-improving-employee-engagement/>
54. Barnett-Page E, Thomas J. Methods for the synthesis of qualitative research: A critical review. *BMC Med Res Methodol.* 2009;9(1):59. doi:10.1186/1471-2288-9-59
55. Limb M, Dwyer C. Qualitative Methodologies for Geographers: Issues and Debates. Arnold; 2001.
56. Baxter J, Eyles J. Evaluating qualitative research in social geography: Establishing "rigour" in interview analysis. *Trans Inst Br Geogr.* 1997;22(4):505-525. doi:10.1111/j.0020-2754.1997.00505.x
57. Zallio M, Clarkson PJ. The inclusion, diversity, equity and accessibility audit. A post-occupancy evaluation method to help design the buildings of tomorrow. *Build Environ.* Published online April 6, 2022:109058. doi:10.1016/J.BUILDENV.2022.109058
58. Salesforce Research. The Impact of Equality and Values Driven Business.; 2017. <https://a.sfdcstatic.com/content/dam/www/ocms-backup/assets/pdf/misc/salesforce-research-2017-workplace-equality-and-values-report.pdf>
59. Nigam A, Tétreault K, Leblanc M-C, Renaud L, Kishchuk N, Juneau M. Implementation and Outcomes of a Comprehensive Worksite Health Promotion Program. Vol 99.
60. MacNaughton P, Pegues J, Satish U, Santanam S, Spengler J, Allen J. Economic, environmental and health implications of enhanced ventilation in office buildings. *Int J Environ Res Public Health.* 2015;12(11):14709-14722. doi:10.3390/ijerph121114709
61. Attema JE, Fowell SJ, Macko MJ, Neilson WC. The Financial Case for High Performance Buildings.; 2018.
62. Stewart WF, Ricci JA, Chee E, Hahn SR, Morganstein D. Cost of Lost Productive Work Time among US Workers with Depression. *J Am Med Assoc.* 2003;289(23):3135-3144. doi:10.1001/jama.289.23.3135
63. World Green Building Council. Health, Wellbeing & Productivity in Offices: The next Chapter for Green Building.; 2014. [https://ukgbc.s3.eu-west-2.amazonaws.com/wp-content/uploads/2017/09/05152806/Health20Wellbeing20and20Productivity20in20Offices20-20The20next20chapter20for20green20building20Full20Report\\_0.pdf](https://ukgbc.s3.eu-west-2.amazonaws.com/wp-content/uploads/2017/09/05152806/Health20Wellbeing20and20Productivity20in20Offices20-20The20next20chapter20for20green20building20Full20Report_0.pdf)
64. Asojo A, Vo H, Bae S. The Impact of Design Interventions on Occupant Satisfaction: A Workplace Pre-and Post-Occupancy Evaluation Analysis. *Sustain* 2021, Vol 13, Page 13571. 2021;13(24):13571. doi:10.3390/SU132413571
65. Lackney JA, Zaifan P. Post-Occupancy Evaluation of Public Libraries: Lessons Learned from Three Case Studies. *Libr Leadersh Manag.* 2005;19(1):16-25. doi:10.5860/LLM.V19I1.1506
66. Carter D. Leveraging Occupancy Evaluations to Create Effective Workspaces. Accessed May 10, 2022. <https://www.workdesign.com/2019/03/data-driven-design-leveraging-occupancy-evaluations-to-inform-and-create-effective-workspaces/>
67. Quick J, Henderson D. Occupational Stress: Preventing Suffering, Enhancing Wellbeing. *Int J Environ Res Public Health.* 2016;13(5):459. doi:10.3390/ijerph13050459
68. Institute for Health and Productivity Studies, Studies I for H and P. From Evidence to Practice: Workplace Wellness that Works. Published online 2015.
69. Sharma M, Rush SE. Mindfulness-Based Stress Reduction as a Stress Management Intervention for Healthy Individuals. *J Evid Based Complementary Altern Med.* 2014;19(4):271-286. doi:10.1177/2156587214543143
70. LaMontagne AD, Martin A, Page KM, et al. Workplace mental health: developing an integrated intervention approach. *BMC Psychiatry.* 2014;14(1):131. doi:10.1186/1471-244X-14-131
71. Wrike. The Stress Epidemic: Employees Are Looking for a Way Out. <https://www.wrike.com/ebook-stress-epidemic/>
72. Anderson DR, Whitmer RW, Goetzel RZ, Ozminkowski RJ, Wasserman J, Serxner S. The Relationship Between Modifiable Health Risks and Group-level Health Care Expenditures. *Am J Heal Promot.* 2000;15(1):45-52. doi:10.1097/00043764-199810000-00003
73. The American Institute of Stress. Workplace Stress - The American Institute of Stress. Accessed August 25, 2022. <https://www.stress.org/workplace-stress>
74. European Parliament, Council of the European Union. Directive 2003/88/EC of the European Parliament and of the Council of 4 November 2003 concerning certain aspects of the organisation of working time. 2004;8(1):3. doi:10.4201/lsmj.car.002
75. Knifton L, Watson V, Gründemann R, Dijkman A, den Besten H, ten Have K. A Guide for Employers. To Promote Mental Health in the Workplace.; 2011.
76. Institute for Health and Productivity Studies Johns Hopkins Bloomberg School of Public Health. From Evidence to Practice: Workplace Wellness that Works. Published online 2015.
77. McKinsey & Company. Women in the Workplace 2016.; 2016.
78. Knight R. 7 Practical Ways to Reduce Bias in Your Hiring Process. *Harvard Business Review.* Published 2017. Accessed May 11, 2022. <https://hbr.org/2017/06/7-practical-ways-to-reduce-bias-in-your-hiring-process>
79. Glassdoor. Global Salary Transparency: Survey Employee Perceptions of Talking Pay.; 2015. Accessed May 11, 2022.

[https://media.glassdoor.com/pr/press/pdf/GD\\_Survey\\_GlobalSalaryTransparency-FINAL.pdf](https://media.glassdoor.com/pr/press/pdf/GD_Survey_GlobalSalaryTransparency-FINAL.pdf)

80. Duggan T. How Would You Apply the Equity Theory in a Performance Appraisal? Chron. Accessed March 17, 2022. <https://smallbusiness.chron.com/would-apply-equity-theory-performance-appraisal-42087.html>
81. Coqual. Coqual-Equity-At-Work-Key-Findings-FINAL.; 2021.
82. Indeed. Employee Resource Groups: A Guide. Accessed May 11, 2022. <https://www.indeed.com/hire/c/info/employee-resource-groups>
83. Parliament of Australia. Defining and measuring modern slavery. Accessed May 11, 2022. [https://www.aph.gov.au/Parliamentary\\_Business/Committees/Joint/Foreign\\_Affairs\\_Defence\\_and\\_Trade/ModernSlavery/Final\\_report/section?id=committees%2Freportjnt%2F024102%2F25035](https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Foreign_Affairs_Defence_and_Trade/ModernSlavery/Final_report/section?id=committees%2Freportjnt%2F024102%2F25035)
84. United States Department of State. What is Modern Slavery? Accessed May 11, 2022. <https://www.state.gov/what-is-modern-slavery/#:~:text=“Trafficking in persons%2C”%2C%20L.>
85. Global Slavery Index. Asia and the Pacific. Published 2018. Accessed May 11, 2022. <https://www.globalslaveryindex.org/2018/findings/regional-analysis/asia-and-the-pacific/>
86. International Labour Office. Global Estimates of Modern Slavery.; 2017. [https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/publication/wcms\\_575479.pdf](https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/publication/wcms_575479.pdf)
87. Supply Chain Sustainability School. Modern Slavery. Accessed May 11, 2022. <https://www.supplychainschool.co.uk/topics/sustainability/modern-slavery/>
88. Australian Council of Superannuation Investors, KPMG. Modern Slavery Risks, Rights & Responsibilities A Guide for Companies and Investors.; 2019.
89. Business & Human Rights Resource Centre. Modern Slavery in Company Operations and Supply Chains.; 2017. [https://media.business-humanrights.org/media/documents/Modern20slavery20in20company20operation20and20supply20chain\\_FINAL.pdf](https://media.business-humanrights.org/media/documents/Modern20slavery20in20company20operation20and20supply20chain_FINAL.pdf)
90. PwC Global. Global diversity and inclusion survey. Accessed May 26, 2022. <https://www.pwc.com/gx/en/services/people-organisation/global-diversity-and-inclusion-survey.html>
91. Zheng L. Do Your Employees Feel Safe Reporting Abuse and Discrimination? Harvard Business Review. Published 2020. Accessed May 11, 2022. <https://hbr.org/2020/10/do-your-employees-feel-safe-reporting-abuse-and-discrimination>
92. Commission USEEO. Select Task Force on the Study of Harassment in the Workplace. Accessed May 11, 2022. <https://www.eeoc.gov/select-task-force-study-harassment-workplace>
93. Center for Employment Equity UMass Amherst. Evidence from the Frontlines on Sexual Orientation and Gender Identity Discrimination. Accessed May 11, 2022. <https://www.umass.edu/employmentequity/evidence-frontlines-sexual-orientation-and-gender-identity-discrimination>
94. Bostock L. LGBTQ+ Employee Resource Groups: What does the science say? Workplace Pride. Published 2021. Accessed May 11, 2022. <https://newhorizons.workplacepride.org/index.php/2021/03/09/lgbtiq-employee-resource-groups-what-does-the-science-say-2/>
95. Lee S. How Anonymous Feedback Creates an Inclusive Culture. All Voices. Published 2021. Accessed May 11, 2022. <https://www.allvoices.co/blog/anonymous-feedback-creates-inclusive-culture>
96. LinkedIn. Why the Head of Diversity is the Job of the Moment. Accessed May 16, 2022. <https://www.linkedin.com/business/talent/blog/talent-acquisition/why-head-of-diversity-is-job-of-the-moment>
97. Newbery C. What is blind recruitment – and does it work? Ciph. Published 2018. Accessed May 26, 2022. <https://www.ciph.com/features/what-is-blind-recruitment/>
98. UN Women. Equal pay for work of equal value. Accessed May 26, 2022. <https://www.unwomen.org/en/news/in-focus/csw61/equal-pay>
99. HRC Foundation. The Wage Gap Among LGBTQ+ Workers in the United States. Accessed May 11, 2022. <https://www.hrc.org/resources/the-wage-gap-among-lgbtq-workers-in-the-united-states>
100. Edmonds L. LGBT+ workers “paid £7,000 less than straight counterparts.” Evening Standard. Published 2019. Accessed May 26, 2022. <https://www.standard.co.uk/news/uk/lgbt-workers-paid-ps7-000-less-than-straight-counterparts-a4179996.html>
101. Longhi S. The Disability Pay Gap.; 2017. Accessed May 11, 2022. [www.equalityhumanrights.com](http://www.equalityhumanrights.com)
102. Jones B, Smith K, Rock D. 3 Biases That Hijack Performance Reviews, and How to Address Them. Harvard Business Review. Published 2018. Accessed May 11, 2022. <https://hbr.org/2018/06/3-biases-that-hijack-performance-reviews-and-how-to-address-them>
103. Rinne U. Anonymous Job Applications and Hiring Discrimination.; 2018. doi:10.15185/izawol.48.v2
104. Westfall B. Pay Transparency, Explained. Capterra. Published 2019. Accessed April 6, 2022. <https://blog.capterra.com/pay-transparency/>
105. Culpepper and Associates. Salary Structures: Creating Competitive and Equitable Pay Levels. Published 2010. Accessed May 12, 2022. <https://www.shrm.org/resourcesandtools/hr-topics/compensation/pages/salarystructures.aspx>
106. Global Slavery Index. Highlights. Published 2018. Accessed May 12, 2022. <https://www.globalslaveryindex.org/2018/findings/highlights/>
107. Such E, Walton E, Bonvoisin T, Stoklosa H. Modern slavery: A global public health concern. BMJ. 2019;364. doi:10.1136/bmj.l838
108. Turner PJ, Jerschow E, Umasunthar T, Lin R, Campbell DE, Boyle RJ. Fatal Anaphylaxis: Mortality Rate and Risk Factors. J Allergy Clin Immunol Pract. 2017;5(5):1169-1178. doi:10.1016/j.jaip.2017.06.031
109. Zimmerman C, Kiss L. Human trafficking and exploitation: A global health concern. PLOS Med. 2017;14(11):e1002437. doi:10.1371/journal.pmed.1002437
110. Ottisova L, Hemmings S, Howard LM, Zimmerman C, Oram S. Prevalence and risk of violence and the mental, physical and sexual health problems associated with human trafficking: An updated systematic review. Epidemiol Psychiatr Sci. 2016;25(4):317-341. doi:10.1017/S2045796016000135
111. Lake Q, Macalister J, Berman C, Gitsham M, Page N. Corporate approaches to addressing modern slavery in supply chains: A snapshot of current practice The Ashridge Centre for Business and Sustainability at Hult International Business School.
112. HM Government, Department of Justice, The Scottish Government, Welsh Government. 2018 UK Annual Report on Modern Slavery.; 2018. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/907527/2018\\_UK\\_Annual\\_Report\\_on\\_Modern\\_Slavery.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907527/2018_UK_Annual_Report_on_Modern_Slavery.pdf)
113. Modern Slavery Act 2018. Federal Register of Legislation - Australian Government; 2018. <https://www.legislation.gov.au/Details/C2018A00153>
114. United Nations. Goal 8: Sustainable Development Knowledge Platform. Accessed May 12, 2022. <https://sdgs.un.org/goals/goal8>
115. McGregor A, Vickery G. Food for Thought: The Modern Slavery Act’s Impact in Fresh Food Retail, Wholesale and Agriculture.; 2017.
116. Walk Free Foundation, Chartered Institute of Purchasing & Supply, Verité. Tackling Modern Slavery in Supply Chains A Guide 1.0.; 2014.
117. Global Slavery Index. Executive Summary. Published 2019. Accessed May 12, 2022. <https://www.globalslaveryindex.org/2019/findings/executive-summary/>
118. Schwarz DK, Allain J. Antislavery in Domestic Legislation.; 2020.
119. SAI Global. Modern Slavery in the Supply Chain: Identifying and Safeguarding the Major Risk Areas.; 2016.
120. Fair Work Ombudsman. National Cleaning Services Campaign 2010-11.; 2011.

121. PWC. Modern Slavery Reporting in Australia.; 2019.
122. Pedersen M, Bryan C. Lee on Design Justice and Architecture's Role in Systemic Racism. ArchDaily. Published 2020. Accessed March 16, 2022. <https://www.archdaily.com/942250/bryan-c-lee-on-design-justice-and-architectures-role-in-systemic-racism>
123. Bostlaugh SE, Andresen EM. Correlates of physical activity for adults with disability. *Prev Chronic Dis.* 2006;3(3):A78.
124. World Health Organization. World Report on Disability. Published online 2011.
125. U.S. Department of Health and Human Science Services: Office of Disease Prevention and Health Promotion. Disability and Health: Overview. Healthy People 2020.
126. Persson H, Åhman H, Yngling AA, Gulliksen J. Universal design, inclusive design, accessible design, design for all: different concepts—one goal? On the concept of accessibility—historical, methodological and philosophical aspects. *Unvers Access Inf Soc.* 2015;14(4):505-526. doi:10.1007/s10209-014-0358-z
127. Crandell CC. Effects of Sound Field FM Amplification on the Speech Perception of ESL Children.pdf.
128. Edwards C, Harold G. DeafSpace and the principles of universal design. *Disabil Rehabil.* 2014;36(16):1350-1359.
129. Hintermair M. Health-Related Quality of Life and Classroom Participation of Deaf and Hard-of-Hearing Students in General Schools. Published online 2010. doi:10.1093/deafed/enq045
130. Klatte M, Hellbrück J, Seidel J, Leistner P. Effects of Classroom Acoustics on Performance and Well-Being in Elementary School Children: A Field Study. *Environ Behav.* 2010;42(5):659-692. doi:10.1177/0013916509336813
131. Bennetts L, Flynn M. Improving the classroom listening skills of children with Down syndrome by using sound-field amplification. *Downs Syndr Res Pract.* 2002;8(1):19-24.
132. Jennings MB. Universal Design for Hearing: Considerations for Examining Hearing Demands and Developing Hearing Friendly Workplaces. *AudiologyOnline.* Published online 2009.
133. Cheesman MF, Jennings MB, Klinger L. Assessing communication accessibility in the university classroom: Towards a goal of universal hearing accessibility. *Work.* 2013;46(2):139-150.
134. Heylighen A, Rychtarikova M, Vermeir G. Designing Spaces for Every Listener. *Unvers Access Inf Soc.* 2010;9(3):283-292.
135. Renel W. Sonic Accessibility: Increasing Social Equity Through the Inclusive Design of Sound in Museums and Heritage Sites. *Curator Museum J.* 2019;62(3):377-402.
136. Service PB. PBS-P100 Facilities Standards for the Public Buildings Service. 2016;(March):333. doi:10.1017/CBO9781107415324.004
137. Gensler. What we've learned about focus in the workplace. Published online 2012.
138. Nannery S. 7 Things to Avoid When Fostering a Neurodiverse Workplace. IPMA-HR. Accessed April 12, 2022. <https://www.ipma-hr.org/stay-informed/hr-news-issues/hr-news-article/7-things-to-avoid-when-fostering-a-neurodiverse-workplace>
139. Mainster MA, Turner PL. Glare's causes, consequences, and clinical challenges after a century of ophthalmic study. *Am J Ophthalmol.* 2012;153(4):587-593. doi:10.1016/j.ajo.2012.01.008
140. Abrahamsson M, Sjostrand J. Impairment of contrast sensitivity function (CSF) as a measure of disability glare. *Investig Ophthalmol Vis Sci.* 1986;27(7):1131-1136.
141. Noble B, Isaacs N, Lamb S. The impact of IEQ factors on people on the autism spectrum. In: *Engaging Architectural Science: Meeting the Challenges of Higher Density: 52nd International Conference of the Architectural Science Association 2018.* ; 2018:27-33.
142. Wolf K, Krueger S, Flora K. Work and Learning - A Literature Review. *Green Cities Good Heal.* Published online 2014.
143. Larsen L, Adams J, Deal B, Kweon B-S, Tyler E. Plants in the workplace the effects of plant density on productivity, attitudes, and perceptions. *Environ Behav.* 1998;30(3):261-281.
144. Largo-Wight E, Chen WW, Dodd V, Weiler R. Healthy Workplaces: The Effects of Nature Contact at Work on Employee Stress and Health. *Public Health Rep.* 2011;126:124-131. doi:10.2307/41639273
145. Moodsonic. Listening to nature: Biophilic soundscapes nurture neurodiversity in the built environment — Moodsonic. Accessed March 16, 2022. <https://www.moodsonic.com/insights/biophilic-soundscapes-neurodiversity-built-environment>
146. Historic England. Celebrating 40 Places Connected to LGBTQ+ History. Accessed March 16, 2022. <https://historicengland.org.uk/whats-new/features/lgbtq-history-of-40-places/>
147. National Museum of African American History and Culture. The Building. Accessed March 16, 2022. <https://nmaahc.si.edu/explore/building>
148. Bevan S. Economic impact of musculoskeletal disorders (MSDs) on work in Europe. *Best Pract Res Clin Rheumatol.* 2015;29(3):356-373. doi:10.1016/j.berh.2015.08.002
149. Occupational Safety and Health Administration. Ergonomics - Overview. Accessed December 8, 2022. <https://www.osha.gov/ergonomics>
150. Heasman B, Livesey A, Walker A, Pellicano E, Remington A. Dare Report on Adjustments. Published online 2020. Accessed March 16, 2022. <https://dareuk.org/dare-adjustments-toolkit>
151. Almeida H. Pregnancy and ergonomics. In: *Proceedings of the International Conference on Clinical and BioEngineering for Women's Health.* ; 2015:11-17.
152. Job Accommodation Network. Accessible Computer Workstations: A Snapshot. Accessed March 16, 2022. <https://askjan.org/articles/Accessible-Computer-Workstations-A-Snapshot.cfm>
153. Ramalho-Pires de Almeida MÁ, Ábalos-Medina GM, Villaverde-Gutiérrez C, Gomes-de Lucena NM, Ferreira-Tomaz A, Perez-Marmol JM. Effects of an ergonomic program on the quality of life and work performance of university staff with physical disabilities: A clinical trial with three-month follow-up. *Disabil Health J.* 2019;12(1):58-64. doi:10.1016/J.DHJO.2018.07.002
154. Safe Work Australia. Principles of Good Work Design. <https://www.safeworkaustralia.gov.au/system/files/documents/1702/good-work-design-handbook.pdf>
155. Hedge A. Ergonomic Workplace Design for Health, Wellness, and Productivity. In: *Ergonomic Workplace Design for Health, Wellness, and Productivity.* ; 2016:1-443. doi:10.1201/9781315374000
156. Anthony K, Dufresne M. Potty Parity in Perspective: Gender and Family Issues in Planning and Designing Public Restrooms. *J Plan Lit.* 2007;21(3):267-294.
157. Schmitt ML, Clatworthy D, Ogello T, Sommer M. Making the Case for a Female-Friendly Toilet. *Water* 2018, Vol 10, Page 1193. 2018;10(9):1193. doi:10.3390/W10091193
158. American Restroom Association. Family and Unisex Restrooms. Accessed March 16, 2022. <https://americanrestroom.org/family-unisex-restrooms/>
159. Occupational Safety and Health Administration. A Guide to Restroom Access for Transgender Workers. Accessed March 16, 2022. <https://www.osha.gov/sites/default/files/publications/OSHA3795.pdf>
160. Clark C. Rethinking Gendered Spaces: Bathrooms and Safe Access for Trans People [Master's Thesis]. Published online 2011.
161. Durand CP, Andalib M, Dunton GF, Wolch J, Pentz MA. A systematic review of built environment factors related to physical activity and obesity risk: Implications for smart growth urban planning. *Obes Rev.* 2011;12(5):e173-82. doi:10.1111/j.1467-789X.2010.00826.x

162. McCormack GR, Shiell A. In search of causality: A systematic review of the relationship between the built environment and physical activity among adults. *Int J Behav Nutr Phys Act.* 2011;8(1):125. doi:10.1186/1479-5868-8-125
163. Transportation Research Board. Does the Built Environment Influence Physical Activity? Examining the Evidence - Special Report 282.; 2005.
164. Renalds A, Smith TH, Hale PJ. A systematic review of built environment and health. *Fam Community Heal.* 2010;33(1):68-78. doi:10.1097/FCH.0b013e3181c4e2e5
165. Urban Land Institute. *Intersections: Health and the Built Environment.* Urban Land Institute; 2013.
166. Humpel N, Owen N, Leslie E. Environmental factors associated with adults' participation in physical activity. A review. *Am J Prev Med.* 2002;22(3):188-199. doi:10.1016/S0749-3797(01)00426-3
167. Centers for Disease Control and Prevention. *Overcoming Barriers to Physical Activity.* Accessed December 19, 2022. <https://www.cdc.gov/physicalactivity/basics/adding-pa/barriers.html>
168. Community Preventive Services Task Force. *Physical Activity: Built Environment Approaches Combining Transportation System Interventions with Land Use and Environmental Design.* The Community Guide. Published 2016. <https://www.thecommunityguide.org/findings/physical-activity-built-environment-approaches.html>
169. Centers for Disease Control and Prevention. *Physical Activity: Community Strategies.* Published 2015. Accessed December 9, 2022. <https://www.cdc.gov/physicalactivity/community-strategies/index.htm>
170. Mazumdar S et al. The built environment and social capital: A systematic review. *Environ Behav.* 2017;50(2):119-158.
171. World Health Organization. *Ageing and health.* Published 2018. Accessed December 9, 2022. <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>
172. Lanteigne V. *WELL v1 Innovation Proposal - Universal Design.*; 2017. <http://www.swinter.com/wp-content/uploads/WELL-Innovations-Proposal.pdf>
173. City of New York Department of Design and Construction, The Mayor's Office for People with Disabilities. *Universal Design New York 2.*; 2003. <https://www.nyc.gov/html/ddc/downloads/pdf/udny/udny2.pdf>
174. Centre for Excellence in Universal Design. *What is Universal Design.* Accessed December 9, 2022. <https://universaldesign.ie/what-is-universal-design/>
175. HOK Group. *Designing a Neurodiverse Workplace.*; 2019. <https://www.hok.com/ideas/publications/hok-designing-a-neurodiverse-workplace/>

## APPENDIX 2:

176. Chivāran C, Zallio M, Waller S, Clarkson PJ. Visual Accessibility and Inclusion An Exploratory Study to Understand Visual Accessibility in the Built Environment. In: The Sixth International Conference on Universal Accessibility in the Internet of Things and Smart Environments. ; 2021:1-7.
177. Margolin S, Poggiali J. "Where Are the Bathrooms?": Academic Library Restrooms and Student Needs. *J Libr Adm.* 2007;57(5):481-499.
178. Othering & Belonging Institute. Creating Bathroom Access & a Gender Inclusive Society. Published 2018. Accessed March 16, 2022. <https://belonging.berkeley.edu/bathroomaccesspolicybrief>
179. Dimmick BL, Douglas D. Reasonable Accommodations for Diabetes Management in the Workplace. Accessed March 9, 2022. <http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report->
180. 1002.4 Trap Seals. In: 2018 International Plumbing Code. International Code Council.
181. Zipperer WC, Pickett ST. Urban Ecology: Patterns of Population Growth and Ecological Effects. *eLS.* 2012;(2008):1-8. doi:10.1002/9780470015902.a0003246.pub2
182. Hartig T, Mitchell R, de Vries S, Frumkin H. Nature and Health. *Annu Rev Public Health.* 2014;35(1):207-228. doi:10.1146/annurev-publhealth-032013-182443
183. Kant I, Beurskens a JHM, Amelsvoort LGPM Van, Swaen GMH. An epidemiological approach to study fatigue in the working population: the Maastricht Cohort Study. Published online 2003:32-39.
184. Nieuwenhuis M, Knight C, Postmes T, Haslam S. The relative benefits of green versus lean office space: Three field experiments. *J Exp Psychol.* 2014;20(3):199-214.
185. Brooks AM, Ottley KM, Arbuthnott KD, Sevigny P. Nature-related mood effects: Season and type of nature contact. *J Environ Psychol.* 2017;54:91-102. doi:<https://doi.org/10.1016/j.jenvp.2017.10.004>
186. Kellert SR, Calabrese EF. The Practice of Biophilic Design.; 2015. [https://biophilicdesign.umn.edu/sites/biophilic-net-positive.umn.edu/files/2021-09/2015\\_Kellert\\_The\\_Practice\\_of\\_Biophilic\\_Design.pdf](https://biophilicdesign.umn.edu/sites/biophilic-net-positive.umn.edu/files/2021-09/2015_Kellert_The_Practice_of_Biophilic_Design.pdf)
187. Boubekri M, Cheung IN, Reid KJ, Wang CH, Zee PC. Impact of windows and daylight exposure on overall health and sleep quality of office workers: A case-control pilot study. *J Clin Sleep Med.* 2014;10(6):603-611. doi:10.5664/jcsm.3780
188. Amundadottir ML, Rockcastle S, Sarey Khanie M, Andersen M. A human-centric approach to assess daylight in buildings for non-visual health potential, visual interest and gaze behavior. *Build Environ.* 2017;113:5-21. doi:10.1016/j.buildenv.2016.09.033
189. Bjornstad S, Patil GG, Raanaas RK. Nature contact and organizational support during office working hours: Benefits relating to stress reduction, subjective health complaints, and sick leave. *Work.* Published online 2016. doi:10.3233/WOR-152211
190. Fjeld T, Veiersted B, Sandvik L, Riise G, Levy F. The Effect of Indoor Foliage Plants on Health and Discomfort Symptoms among Office Workers. *Indoor Built Environ.* 1998;7(4):204-209.
191. Travis J. Black culture in interior design - hidden in plain view: Ten principles of black space design for creating interiors. In: Martin IC, Guerin D, eds. *The State of the Interior Design Profession.* Fairchild Books; 2010:317-325.
192. Rowland-Shea J, Doshi S, Shanna E. The Nature Gap. Center for American Progress. Published 2020. Accessed March 16, 2022. <https://www.americanprogress.org/article/the-nature-gap/>
193. An M, Colarelli SM, O'Brien K, Boyajian ME. Why we need more nature at work: Effects of natural elements and sunlight on employee mental health and work attitudes. *PLoS One.* 2016;11(5):1-17. doi:10.1371/journal.pone.0155614
194. Browning W, Ryan C, Clancy J. 14 Patterns of Biophilic Design. Terrapin Bright Green, LLC. Published online 2014:1-60.
195. International Living Future Institute. Living Building Challenge 4.0, Core Imperative 19 - Beauty + Biophilia.
196. Canadian Centre for Occupational Health and Safety. Lighting Ergonomics-Light Flicker. Accessed December 9, 2022. [https://www.ccohs.ca/oshanswers/ergonomics/lighting\\_flicker.html](https://www.ccohs.ca/oshanswers/ergonomics/lighting_flicker.html)
197. Veitch JA, McColl SL. Modulation of Fluorescent light: flicker rate and light source effects on visual performance and visual comfort. *Light Res Technol.* 1995;27:243-256. [b.mit.edu/parmstr/Public/NRCAN/nrcc38944.pdf](http://b.mit.edu/parmstr/Public/NRCAN/nrcc38944.pdf)
198. Harding G, Wilkins AJ, Erba G, Barkley GL, Fisher RS. Photic- and pattern-induced seizures: expert consensus of the Epilepsy Foundation of America Working Group. *Epilepsia.* 2005;46(9):1423-1425. doi:10.1111/j.1528-1167.2005.31305.x
199. Wilkings AJ, Nimmo-Smith I, Slater AI, Bedocs L. Fluorescent lighting, headaches and eyestrain. *Light Res Technol.* 1989;21(1):11-18.
200. Institute for Health Metrics and Evaluation. GBD Compare. Published 2017. Accessed December 9, 2022. <https://vizhub.healthdata.org/gbd-compare/>
201. World Health Organization. Global health estimates: Leading causes of DALYs. Accessed August 26, 2022. <https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/global-health-estimates-leading-causes-of-dalys>
202. MacLennan K, O'Brien S, Tavassoli T. In Our Own Words: The Complex Sensory Experiences of Autistic Adults. *J Autism Dev Disord.* Published online July 13, 2021:1-15. doi:10.1007/s10803-021-05186-3/FIGURES/3
203. Stark E, Ali D, Ayre A, et al. Coproduction with Autistic Adults: Reflections from the Authentic Research Collective. [https://home.liebertpub.com/aut.2021;3\(2\):195-203](https://home.liebertpub.com/aut.2021;3(2):195-203). doi:10.1089/AUT.2020.0050
204. Harle DE, Shepherd AJ, Evans BJW. Visual stimuli are common triggers of migraine and are associated with pattern glare. *Headache.* 2006;46(9):1431-1440. doi:10.1111/j.1526-4610.2006.00585.x
205. Sawicki D, Wolska A. Glare at Outdoor Workplaces&mdash;An Underestimated Factor of Occupational Risk. *Energies* 2022, Vol 15, Page 472. 2022;15(2):472. doi:10.3390/EN15020472
206. Glimne S, Österman C. Eye symptoms and reading abilities of computer users subjected to visually impaired direct glare. *Int J Ind Ergon.* 2019;72:173-179. doi:10.1016/J.ERGON.2019.05.005
207. Osterhaus WKE. Discomfort glare assessment and prevention for daylight applications in office environments. *Sol Energy.* 2005;79(2):140-158. doi:10.1016/J.SOLENER.2004.11.011
208. Wolska A, Sawicki D. Evaluation of discomfort glare in the 50+ elderly: Experimental study. *Int J Occup Med Environ Health.* 2014;27(3):444-459. doi:10.2478/s13382-014-0257-9
209. California Energy Commission. JA10.1 Introduction. 2016 Building Energy Efficiency Standards. Published 2016. Accessed December 9, 2022. <https://energycodeace.com/site/custom/public/reference-ace-2016/index.html#!Documents/ja101introduction1.htm>
210. IEEE Standards Association. IEEE Std 1789-2015 - IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers. Published online 2016. doi:10.1109/IEEESTD.2015.7118618
211. International Commission On Illumination. Visual Aspects of Time-Modulated Lighting Systems – Definitions and Measurement Models - CIE TN 006:2016. CIE Tech Rep. Published online 2016:19.
212. Temporal Light Artifacts: Test Methods and Guidance for Acceptance Criteria - NEMA. National Electrical Manufacturers Association; 2017.

213. Institute for Health Metrics and Evaluation (IHME). GBD Compare. Accessed December 9, 2022. <https://vizhub.healthdata.org/gbd-compare/>
214. Agarwal S, Steinmaus C, Harris-Adamson C. Sit-stand workstations and impact on low back discomfort: a systematic review and meta-analysis. *Ergonomics*. Published online 2018. doi:10.1080/00140139.2017.1402960
215. American National Standards Institute (ANSI), Canadian Standards Association. CSA Z412-2017: Office Ergonomics An Application Standard For Workplace Ergonomics. Presented at the: 2017.
216. U.S. General Accounting Office. Worker Protection: Private Sector Ergonomics Programs Yield Positive Results.; 1997.
217. Heller-ono A. A Prospective Study of a Macroergonomics Process over Five Years Demonstrates Significant Prevention of Workers' Compensation Claims Resulting in Projected Savings. Published online 2009:1-4.
218. Goggins RW, Spielholz P, Nothstein GL. Estimating the effectiveness of ergonomics interventions through case studies: Implications for predictive cost-benefit analysis. *J Safety Res*. 2008;39(3):339-344. doi:10.1016/J.JSR.2007.12.006
219. Human Factors and Ergonomics Society. ANSI/HFES 100-2007 - Human Factors Engineering of Computer Workstations. Human Factors and Ergonomics Society; 2007.
220. Business + Institutional Furniture Manufacturers Association. BIFMA G1-2013 - Ergonomics Guideline: Ergonomics Guideline for Furniture Used in Office Work Spaces Designed for Computer Use. Business + Institutional Furniture Manufacturers Association; 2013.
221. Ebben JM. Improved Ergonomics for Standing Work. *Occup Saf Heal*. 2003;72(4):72-76.
222. U.S. Occupational Safety and Health Administration. Guidelines for Retail Grocery Stores: Ergonomics for the Prevention of Musculoskeletal Disorders. Published online 2004.
223. Canadian Centre for Occupational Health and Safety. Working in a Standing Position - Basic Information. Accessed December 9, 2022. [https://www.ccohs.ca/oshanswers/ergonomics/standing/standing\\_basic.html](https://www.ccohs.ca/oshanswers/ergonomics/standing/standing_basic.html)
224. Centers for Disease Control and Prevention. Elements of Ergonomic Programs. Published 1997. Accessed December 9, 2022. <https://www.cdc.gov/niosh/topics/ergonomics/ergoprimer/default.html>
225. Institute for Health Metrics and Evaluation. Occupational ergonomic factors — Level 3 risk. Accessed July 27, 2022. [https://www.healthdata.org/results/gbd\\_summaries/2019/occupational-ergonomic-factors-level-3-risk](https://www.healthdata.org/results/gbd_summaries/2019/occupational-ergonomic-factors-level-3-risk)
226. Park SH, Lee PJ, Yang KS, Kim KW. Relationships between non-acoustic factors and subjective reactions to floor impact noise in apartment buildings. *J Acoust Soc Am*. 2016;139(3):1158-1167. doi:10.1121/1.4944034
227. Oseland N. Psychoacoustics Survey Results. 2015;(September):1-32.
228. Oseland N, Hodsman P. Psychoacoustics Resolving Noise Distractions in the Workplace. In: Hedge A, ed. *Ergonomic Workplace Design for Health, Wellness, and Productivity*. 1st ed. Routledge; 2016:73-101.
229. Hodsman P. Planning for Psychoacoustics: A Psychological Approach to Resolving Office Noise Distraction. Published online 2015.
230. Kaarela-Tuomaala A, Helenius R, Keskinen E, Hongisto V. Effects of acoustic environment on work in private office rooms and open-plan offices - Longitudinal study during relocation. *Ergonomics*. 2009;52(11):1423-1444. doi:10.1080/00140130903154579
231. Kim J, de Dear R. Workspace satisfaction: The privacy-communication trade-off in open-plan offices. *J Environ Psychol*. 2013;36:18-26. doi:10.1016/j.jenvp.2013.06.007
232. Banbury SP, Berry DC. Office noise and employee concentration: Identifying causes of disruption and potential improvements. *Ergonomics*. 2005;48(1):25-37. doi:10.1080/00140130412331311390
233. Hedge A. The open-plan office: A Systematic Investigation of Employee Reactions to Their Work Environment. *Environ Behav*. 1982;14(5):519-542. doi:10.1177/0013916582145002
234. Brammer A, Laroche C. Noise and communication: A three-year update. *Noise Heal*. 2012;14(61):281. doi:10.4103/1463-1741.104894
235. De Vries B, University U, Leuven KU. Autism and the Right to a Hypersensitivity-Friendly Workspace. *Public Health Ethics*. 2021;14(3):281-287. doi:10.1093/PHE/PHAB021
236. Bubl E, Dörr M, Riedel A, et al. Elevated Background Noise in Adult Attention Deficit Hyperactivity Disorder Is Associated with Inattention. *PLoS One*. 2015;10(2). doi:10.1371/JOURNAL.PONE.0118271
237. Little LM, Dean E, Tomchek S, Dunn W. Sensory Processing Patterns in Autism, Attention Deficit Hyperactivity Disorder, and Typical Development. <https://doi.org/10.1080/0194263820171390809>. 2017;38(3):243-254. doi:10.1080/01942638.2017.1390809
238. Sailer U, Hassenzehl M. Assessing noise annoyance: An improvement-oriented approach. *Ergonomics*. 2000;43(11):1920-1938. doi:10.1080/00140130050174545
239. Hodsman P, Burton A. Managing auditory sensitivity in the workplace. *RICS*. Published 2021. Accessed March 16, 2022. <https://www3.rics.org/uk/en/journals/property-journal/managing-auditory-sensitivity-in-the-workplace.html>
240. Keus van de Poll M, Carlsson J, Marsh JE, et al. Unmasking the effects of masking on performance: The potential of multiple-voice masking in the office environment. *J Acoust Soc Am*. 2015;138(2):807-816. doi:10.1121/1.4926904
241. Navai M, Veitch J a. Acoustic Satisfaction in Open-Plan Offices: Review and Recommendations. Published online 2003:23. doi:http://doi.org/10.4224/20386513
242. Peters LJ. Auditory Performance: A Model to Predict Task Performance as a Function of Auditory Workload: Overview. In: *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. ; 1991.
243. Flexer C. The Impact of Classroom Acoustics: Listening, Learning, and Literacy. *Semin Hear*. 2004;25(2):131-140.
244. Moeller N. Placing Sound Masking on the Front Line of Acoustic Design. *Construction Canada*. Published 2017. Accessed December 9, 2022. <https://www.constructioncanada.net/placing-sound-masking-on-the-front-line-of-acoustic-design/>
245. Hastwell C. How to Build and Support Neurodiversity in the Workplace. *Great Place to Work*. Published 2021. Accessed March 16, 2022. <https://www.greatplacetowork.com/resources/blog/how-to-build-and-support-neurodiversity-in-the-workplace>
246. Canónico E, Lup D. Could teleworking benefit organisational neurodiversity? *London School of Economics and Political Science*. Published 2020. Accessed March 16, 2022. <https://blogs.lse.ac.uk/businessreview/2020/08/28/could-teleworking-benefit-organisational-neurodiversity/>
247. Greenberg A, Zanetis J. The Impact of Broadcast and Streaming Video in Education.; 2012. [https://www.cisco.com/c/dam/en\\_us/solutions/industries/docs/education/ciscovideowp.pdf](https://www.cisco.com/c/dam/en_us/solutions/industries/docs/education/ciscovideowp.pdf)
248. Fukushima M, Nakamura N, Yanagawa H. Evaluation of speech intelligibility for classroom-to-classroom collaborative learning via multimedia network. 1(1):1-5.
249. ANSI/INFOCOMM. ANSI/INFOCOMM 10:2013 Audiovisual Systems Performance Verification. Published online 2017:30.
250. Downs DW, Crum MA. Processing Demands During Auditory Learning Under Degraded Listening Conditions. *J Speech Hear Res*. 1978;21(4):702-714.
251. Ghosh A, Gajar PK, Rai S. Bring your own device (BYOD): Security risks and mitigating strategies. *J Glob Res Comput Sci*. 2013;4(4):62-70.
252. Ernst and Young. Bring Your Own Device: Security and risk considerations for your mobile device program. 2013;(September):1-16.

253. Dixon M. The IWG Global Workspace Survey: Welcome to Generation Flex - The Employee Power Shift. 2019;(March):1-27.
254. Oseland N, Webber C. Flexible Working Benefits: Collated Evidence and Case Studies. 2012;(September):1-14.
255. König CJ, Kleinmann M, Höhmann W. A field test of the quiet hour as a time management technique. *Rev Eur Psychol Appl.* 2013;63(3):137-145. doi:10.1016/j.erap.2012.12.003
256. Frost & Sullivan. The Smartphone Productivity Effect : Quantifying the Productivity Gains of Smartphones in the Enterprise. Published online 2016:1-19.
257. O'Connor K. Auditory processing in autism spectrum disorder: A review. *Neurosci Biobehav Rev.* 2012;36(2):836-854. doi:10.1016/J.NEUBIOREV.2011.11.008
258. Schwartz S. Autism and auditory processing disorder: A follow-up. *Autism Speaks.* Published 2020. Accessed April 12, 2022. <https://www.autismspeaks.org/science-news/autism-and-auditory-processing-disorder-follow>
259. Larsen JB, Vega A, Ribera JE. The Effect of Room Acoustics and Sound-Field Amplification on Word Recognition Performance in Young Adult Listeners in Suboptimal Listening Conditions. *Am J Audiol.* 2008;17(1):50-59.
260. Neel AT. Effects of Loud and Amplified Speech on Sentence and Word Intelligibility in Parkinson Disease. *J Speech, Lang Hear Res.* 2009;52(4):1021-1033.
261. Arnold P, Canning D. Does classroom amplification aid comprehension? *Br J Audiol.* 1999;33(3):171-178.
262. Elliott L, Hammer M, Scholl M. Fine-grained auditory discrimination in normal children and children with language-learning problems. *J Speech Hear Res.* 1989;32(1):112-119.
263. Jonsdottir VI. The Voice An Occupational Tool A Study of Theacher's Classroom Speech and the Effects of Amplification. Published online 2003. <https://trepo.tuni.fi/bitstream/handle/10024/67327/951-44-5804-4.pdf?sequence=1for>
264. AM de M, SM B, AA A. Voice disorders (dysphonia) in public school female teachers working in Belo Horizonte: prevalence and associated factors. *J Voice.* 2008;22(6):676-687.
265. Chen S, Chiang S, YM C, Hsiao L, Hsiao T. Risk factors and effects of voice problems for teachers. *J Voice.* 2010;24(2):183-190.
266. Rocha L da, Bach S de L, Amaral P do, Behlau M, Souza L de M. Risk Factors for the Incidence of Perceived Voice Disorders in Elementary and Middle School Teachers. *J Voice.* 2017;31(2).
267. YR L, HR K, Lee S. Effect of teacher's working conditions on voice disorder in Korea: a nationwide survey. *Ann Occup Env Med.* 2018;30(43).
268. Moy F, Hoe V, Hairi N, Chu A, Bulgiba A, Koh D. Determinants and Effects of Voice Disorders among Secondary School Teachers in Peninsular Malaysia Using a Validated Malay Version of VHI-10. *PLoS One.* 2015;10(11).
269. Audiovisual and Integrated Experience Association. AV/IT Infrastructure Guidelines for Higher Education. <https://www.avixa.org/standards/av-it-infrastructure-guidelines-for-higher-education>
270. National Fire Protection Association. National Fire Alarm and Signaling Code.; 2014.
271. International Electrotechnical Commission. IEC 60268-16 - Sound System Equipment - Part 16: Objective Rating of Speech Intelligibility by Speech Transmission Index. Published online 2011:76.
272. Accredited Standards Committee S12 Noise. ANSI/ASA S12.60-2010/Part 1 American National standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 1: Permanent Schools. Published online 2010:30. doi:10.1063/1.3056837
273. Mullins T, Boeshans B, Colquhoun J, Graham A, Kruse K. ANSI/INFOCOMM A102.01:2017 - Audio Coverage Uniformity in Listener Areas. Published online 2017:30.
274. Klepeis NE, Nelson WC, Ott WR, et al. The National Human Activity Pattern Survey (NHAPS): A resource for assessing exposure to environmental pollutants. *J Expo Anal Environ Epidemiol.* 2001;11(3):231-252. doi:10.1038/sj.jea.7500165
275. Ning H, Wang Z, Zhang X, Ji Y. Adaptive thermal comfort in university dormitories in the severe cold area of China. *Build Environ.* 2016;99:161-169. doi:10.1016/j.buildenv.2016.01.003
276. Luo M, Ji W, Cao B, Ouyang Q, Zhu Y. Indoor climate and thermal physiological adaptation: Evidences from migrants with different cold indoor exposures. *Build Environ.* 2016;98:30-38. doi:10.1016/j.buildenv.2015.12.015
277. van Hoof J, Schellen L, Soebarto V, Wong JKW, Kazak JK. Ten questions concerning thermal comfort and ageing. *Build Environ.* 2017;120(1):123-133. doi:10.1016/j.buildenv.2017.05.008
278. Van Hoof J. Forty years of Fanger's model of thermal comfort: Comfort for all? *Indoor Air.* 2008;18(3):182-201. doi:10.1111/j.1600-0668.2007.00516.x
279. Nicol F, Humphreys M. Maximum temperatures in European office buildings to avoid heat discomfort. *Sol Energy.* 2007;81(3):295-304. doi:10.1016/j.solener.2006.07.007
280. de Dear RJ, Brager GS. Developing an adaptive model of thermal comfort and preference. *ASHRAE Trans.* 1998;104(Pt 1A):145-167.
281. Küller R, Ballal S, Laike T, Mikellides B, Tonello G. The impact of light and colour on psychological mood: a cross-cultural study of indoor work environments. *Ergonomics.* 2006;49(14):1496-1507. doi:10.1080/00140130600858142
282. Knez I, Kers C. Effects of Indoor Lighting, Gender, and Age on Mood and Cognitive Performance: <http://dx.doi.org/101177/0013916500326005>. 2016;32(6):817-831. doi:10.1177/0013916500326005
283. Veitch JA, Newsham GR. Exercised Control, Lighting Choices, and Energy Use: An Office Simulation Experiment. *J Environ Psychol.* 2000;20(3):219-237. doi:10.1006/JEVP.1999.0169
284. Pan CS, Chiang HC, Yen MC, Wang CC. Thermal comfort and energy saving of a personalized PFCU air-conditioning system. *Energy Build.* 2005;37(5):443-449. doi:10.1016/j.enbuild.2004.08.006
285. Gao C, Kuklane K, Wang F, Holmér I. Personal cooling with phase change materials to improve thermal comfort from a heat wave perspective. *Indoor Air.* 2012;22(6):523-530. doi:10.1111/j.1600-0668.2012.00778.x
286. Pasut W, Zhang H, Arens E, Zhai Y. Energy-efficient comfort with a heated/cooled chair: Results from human subject tests. *Build Environ.* 2015;84:10-21. doi:10.1016/j.buildenv.2014.10.026
287. Zhang H, Arens E, Pasut W. Air temperature thresholds for indoor comfort and perceived air quality. <https://doi.org/101080/096132182011552703>. 2011;39(2):134-144. doi:10.1080/09613218.2011.552703
288. Sekhar SC. Higher space temperatures and better thermal comfort - a tropical analysis. *Energy Build.* 1995;23(1):63-70. doi:10.1016/0378-7788(95)00932-N
289. Schiavon, S. & Melikov A. Energy saving and improved comfort by increased air movement. *Energy Build.* 2008;40(10):313-360.
290. Watanabe S, Shimomura T, Miyazaki H. Thermal evaluation of a chair with fans as an individually controlled system. *Build Environ.* 2009;44(7):1392-1398. doi:10.1016/j.buildenv.2008.05.016
291. Schiavon, S., Yang, B., Donner, Y., Chang, VW, & Nazaroff W. Thermal comfort, perceived air quality and cognitive performance when personally controlled air movement is used by tropically acclimatized persons. *Indoor Air.* 2016;27(3):609-702. doi:10.1111/ina.12046
292. Gifford R. Light, decor, arousal, comfort and communication. *J Environ Psychol.* 1988;8(3):177-189. doi:10.1016/S0272-4944(88)80008-2
293. American Society of Heating Refrigerating and Air-Conditioning Engineers. ASHRAE 55-2020: Thermal Environmental Conditions for Human Occupancy. Published

- online 2021. [https://www.techstreet.com/ashrae/standards/ashrae-55-2020?product\\_id=2207271](https://www.techstreet.com/ashrae/standards/ashrae-55-2020?product_id=2207271)
294. Owen N, Sparling PB, Healy GN, Dunstan DW, Matthews CE. Sedentary behavior: emerging evidence for a new health risk. *Mayo Clin Proc.* 2010;85(12):1138-1141. doi:10.4065/mcp.2010.0444
295. Pedestrians First. Why Walkability. Accessed May 26, 2022. <https://pedestriansfirst.itdp.org/about>
296. World Health Organization. Road traffic injuries. Accessed September 1, 2022. <https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries>
297. American Public Health Association. Ensuring Equity in Transportation and Land Use Decisions to Promote Health and Well-Being in Metropolitan Areas. Accessed March 16, 2022. <https://www.apha.org/Policies-and-Advocacy/Public-Health-Policy-Statements/Policy-Database/2022/01/10/Ensuring-Equity-in-Transportation>
298. U.S. Department of Health and Human Services, Services USD of H and H. STEP IT UP! The Surgeon General's Call to Action to Promote Walking and Walkable Communities. U.S. Department of Health and Human Services, Office of the Surgeon General; 2015.
299. Ewing R, Hajrasouliha A, Neckerman KM, Purciel-Hill M, Greene W. Streetscape Features Related to Pedestrian Activity. *J Plan Educ Res.* 2015;36(1):5-15. doi:10.1177/0739456x15591585
300. City of New York. Active Design: Shaping the Sidewalk Experience. City of New York; 2013. [https://www.nyc.gov/assets/planning/download/pdf/plans-studies/active-design-sidewalk/active\\_design.pdf](https://www.nyc.gov/assets/planning/download/pdf/plans-studies/active-design-sidewalk/active_design.pdf)
301. Walk Score. Walk Score Methodology. Accessed December 19, 2022. <https://www.walkscore.com/methodology.shtml>
302. National Association of City Transportation Officials. Global Street Design Guide. Island Press; 2016.
303. City of New York. Active Design Guidelines: Promoting Physical Activity and Health in Design.; 2010. <https://www1.nyc.gov/assets/planning/download/pdf/plans-studies/active-design-guidelines/adguidelines.pdf>
304. U.S. Green Building Council. LEED BD+C: Core and Shell - Surrounding density and diverse uses. Accessed December 9, 2022. <https://www.usgbc.org/credits/core-shell/v2012/ltc4>
305. Officials NA of CT, National Association of City Transportation Officials, Officials NA of CT. Global Street Design Guide. Island Press; 2016.
306. U.S. Green Building Council. LEED ND: Built Project - Walkable Streets. Accessed December 19, 2022. <https://www.usgbc.org/credits/neighborhood-development-plan-neighborhood-development/v4-draft/npdp1>
307. City of New York. Active Design: Shaping the Sidewalk Experience.; 2013. [https://www.nyc.gov/assets/planning/download/pdf/plans-studies/active-design-sidewalk/active\\_design.pdf](https://www.nyc.gov/assets/planning/download/pdf/plans-studies/active-design-sidewalk/active_design.pdf)
308. U.S. Green Building Council. LEED ND: Built Project - Walkable Streets. Accessed December 9, 2022. <https://www.usgbc.org/credits/neighborhood-development-plan-neighborhood-development/v4-draft/npdp1>
309. National Association of City Transportation Officials. Urban Street Design Guide. Published 2013. Accessed December 9, 2022. <http://nacto.org/publication/urban-street-design-guide/>
310. Walk Score. Walk Score Methodology. Accessed December 9, 2022. <https://www.walkscore.com/methodology.shtml>
311. U.S. Department of Health and Human Services. Healthy People 2030: Social Determinants of Health. Accessed December 9, 2022. <https://health.gov/healthypeople/priority-areas/social-determinants-health>
312. Braveman P, Gottlieb L. The Social determinants of Health: It's Time to Consider the Causes of the Causes. 2014;129:19-31. doi:10.1177/003335491412915206
313. Weissman J, Stern R, Fielding S, Epstein A. Delayed Access to Health Care: Risk Factors, Reasons, and Consequences. *Ann Intern Med.* 1991;114(4):325-331.
314. Gulliford M, Figueroa-Munoz J, Morgan M, et al. What does "access to health care" mean? *J Heal Serv Res Policy.* 2002;7(3):186-188. doi:10.1258/135581902760082517
315. Malik-Soni N, Shaker A, Luck H, et al. Tackling healthcare access barriers for individuals with autism from diagnosis to adulthood. *Pediatr Res* 2021. Published online March 25, 2021:1-8. doi:10.1038/s41390-021-01465-y
316. Malik-Soni N, Shaker A, Luck H, et al. Tackling healthcare access barriers for individuals with autism from diagnosis to adulthood. *Pediatr Res* 2021. Published online March 25, 2021:1-8. doi:10.1038/s41390-021-01465-y
317. U.S. Department of Health and Human Services. Access to Health Services. Healthy People 2030. Accessed December 9, 2022. <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/access-health-services>
318. Raub A, Chung P, Batra P, et al. Paid Leave for Personal Illness: A Detailed Look at Approaches Across OECD Countries.; 2018.
319. U.S. Congress Joint Economic Committee. Expanding Access to Paid Sick Leave: The Impact of the Healthy Families Act on America's Workers.; 2010.
320. Scheil-Adlung X, Sandner L. The Case for Paid Sick Leave.; 2010.
321. Heymann J, Rho HJ, Schmitt J, Earle A. Contagion Nation: A Comparison of Paid Sick Day Policies in 22 Countries.; 2009.
322. Institute for Women's Policy Research. Estimating the Distributional Impacts of Alternative Policies to Provide Paid Sick Days in the United States Issue Brief-Worker Leave Analysis and Simulation Series.; 2017.
323. Scheil-Adlung X, Sandner L. Evidence on paid sick leave: Observations in times of crisis. *Intereconomics.* 2010;45(5):313-321. doi:10.1007/s10272-010-0351-6
324. Heymann J, Earle A, Hayes J. The Work, Family, and Equity Index How Does the United States Measure Up? About the Project on Global Working Families.
325. Pega F, Náfrádi B, Momen NC, et al. Global, regional, and national burdens of ischemic heart disease and stroke attributable to exposure to long working hours for 194 countries, 2000–2016: A systematic analysis from the WHO/ILO Joint Estimates of the Work-related Burden of Disease and Injury. *Environ Int.* 2021;154:106595. doi:10.1016/J.ENVINT.2021.106595
326. Institute for Women's Policy Research. Gender Inequality, Work Hours, and the Future of Work.; 2019. Accessed March 16, 2022. <https://iwpr.org/iwpr-issues/esme/gender-inequality-work-hours-and-the-future-of-work/>
327. World Health Organization. 10 facts on ageing and health. Published 2017. Accessed December 9, 2022. <https://www.who.int/news-room/fact-sheets/detail/10-facts-on-ageing-and-health>
328. International Alliance of Carer Organizations. Global State of Care.; 2021. Accessed July 26, 2022. <https://internationalcarers.org/global-state-of-care/>
329. Embracing Carers. Embracing Carers International Survey. Accessed August 26, 2022. [https://www.embracingcarers.com/content/dam/web/healthcare/corporate/embracing-carers/media/infographics/us/Embracing Carers Survey Results.KGaA.FINAL.pdf](https://www.embracingcarers.com/content/dam/web/healthcare/corporate/embracing-carers/media/infographics/us/Embracing%20Carers%20Survey%20Results.KGaA.FINAL.pdf)
330. Carers NSW. The Business Case for a Carer-Friendly Workplace. Accessed August 26, 2022. <https://carersandemployers.org.au/uploads/main/ProgramDocuments/CE-Business-Case.pdf>
331. Harris C, Haar J. The double juggle: how working parents manage school holidays and their jobs. *The Conversation.* Published 2018. Accessed July 28, 2022. <https://theconversation.com/the-double-juggle-how-working-parents-manage-school-holidays-and-their-jobs-108080>
332. Pew Research Center. Americans Widely Support Paid Family and Medical Leave, but Differ Over Specific Policies. Published online 2017.
333. Stroebe M, Stroebe W, Schut H. Health consequences of bereavement: A review. *Lancet.* 2007;370(May 2016):1960-1973.

334. The National Council for Palliative Care. Life After Death - Six steps to improve support in bereavement. Published online 2014.
335. Mind Share Partners. Mind Share Partner's Mental Health at Work.; 2019. <https://www.mindsharepartners.org/mentalhealthatworkreport>
336. World Health Organization. Mental Health Action Plan 2013-2020.; 2013. doi:ISBN 978 92 4 150602 1
337. Chow R. Don't Just Mentor Women and People of Color. Sponsor Them. Harvard Business Review. Published 2021. Accessed March 17, 2022. <https://hbr.org/2021/06/dont-just-mentor-women-and-people-of-color-sponsor-them>
338. Reeves M. Promoting Diversity in the Workplace through Mentorship. Together. Published 2019. Accessed March 17, 2022. <https://www.togetherplatform.com/blog/promoting-diversity-in-the-workplace-through-mentorship>
339. Quantic. Discover the Employer Benefits of Tuition Reimbursement. Published 2021. Accessed March 17, 2022. <https://quantic.edu/blog/2021/04/26/discover-the-employer-benefits-of-tuition-reimbursement/>
340. World Health Organization. Violence against women. Published 2021. Accessed December 9, 2022. <https://www.who.int/news-room/fact-sheets/detail/violence-against-women>
341. United Nations Women - National Committee Australia. Taking the First Step: Workplace Responses to Domestic and Family Violence.; 2017.
342. Wathen CN, MacGregor JCD, MacQuarrie BJ. The Impact of Domestic Violence in the Workplace: Results from a Pan-Canadian Survey. J Occup Environ Med. 2015;57(7):e65-e71. doi:10.1097/JOM.0000000000000499
343. Australian Human Rights Commission. Fact sheet: Domestic and family violence - a workplace issue, a discrimination issue. Published 2014. Accessed December 19, 2022. <https://humanrights.gov.au/our-work/sex-discrimination/publications/fact-sheet-domestic-and-family-violence-workplace-issue>
344. Vodafone Foundation. Domestic Violence and Abuse: Working Together to Transform Responses in the Workplace.; 2019.
345. University of Wisconsin Population Health Institute. Addressing health disparities within your workforce. Accessed May 2, 2022. <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model>
346. Kates J, Ranji U, Beamesderfer A, Salganicoff A, Dawson L. Health and Access to Care and Coverage for Lesbian, Gay, Bisexual, and Transgender (LGBT) Individuals in the U.S.; 2018.
347. Booshehri LG, Dugan J. Overcoming Barriers to Access Health Care The Challenges Facing Minorities and Immigrants in Washington State.; 2021.
348. World Health Organization. Disability and health. Accessed May 9, 2022. <https://www.who.int/news-room/fact-sheets/detail/disability-and-health>
349. McCarty N. Health-care barriers prevent many autistic people from seeking medical treatment. Spectrum News. Published 2022. Accessed May 12, 2022. <https://www.spectrumnews.org/news/health-care-barriers-prevent-many-autistic-people-from-seeking-medical-treatment/>
350. Maese E, Lloyd C. It's Time to Synchronize Your DEI and Wellbeing Strategies. Gallup. Published 2022. Accessed May 2, 2022. <https://www.gallup.com/workplace/389957/time-synchronize-dei-wellbeing-strategies.aspx>

## APPENDIX 3:

351. Cordina J, Greenfield M, Purcell L, Stueland J. How employers can help advance health equity in the workplace. McKinsey & Company. Published 2021. Accessed May 2, 2022. <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/income-alone-may-be-insufficient-how-employers-can-help-advance-health-equity-in-the-workplace>
352. MetLife. Work Redefined: A New Age of Benefits.; 2019. <https://www.metlife.com/employee-benefit-trends/work-redefined/>
353. Maternal Health Task Force at the Harvard Chan School. What Role Could Doula Play in Addressing Black American Maternal Mortality? Published 2020. Accessed April 27, 2022. <https://www.mhtf.org/2020/04/28/what-role-could-doula-play-in-addressing-black-american-maternal-mortality/>
354. National Organization for Rare Disorders. Medical Nutrition. Accessed May 2, 2022. <https://rarediseases.org/policy-issues/medical-nutrition/>
355. Human Rights Campaign Foundation. Healthcare Equality Index 2020. Accessed May 2, 2022. <https://hrc-prod-requests.s3-us-west-2.amazonaws.com/resources/HEI-2020-FinalReport.pdf>
356. Fraade-Blanar L, Koo T, Whaley CM. Going to the Doctor: Rideshare as Nonemergency Medical Transportation. Published online 2021. Accessed May 9, 2022. [www.rand.org/t/RR1019-1](http://www.rand.org/t/RR1019-1).
357. Movement Advancement Project. Healthcare Laws and Policies. Accessed May 12, 2022. [https://www.lgbtmap.org/equality-maps/healthcare\\_laws\\_and\\_policies](https://www.lgbtmap.org/equality-maps/healthcare_laws_and_policies)
358. Levine D. Alternative Medicine: Is It Covered? U.S. News. Published 2020. Accessed May 12, 2022. <https://health.usnews.com/health-care/health-insurance/articles/alternative-medicine-health-insurance>
359. LLU Institute for Health Policy Leadership. Transgender Discrimination in Healthcare. Accessed May 9, 2022. <https://ihpl.llu.edu/blog/transgender-discrimination-healthcare>
360. Myers A. Non-Emergency Medical Transportation: A Vital Lifeline for a Healthy Community. National Conference of State Legislatures. Published 2015. Accessed May 12, 2022. <https://www.ncsl.org/research/transportation/non-emergency-medical-transportation-a-vital-lifeline-for-a-healthy-community.aspx>
361. Zisman CR, Patti MA, Kalb LG, et al. Complementary and Alternative Medicine Use in Children with a Developmental Disability and Co-occurring Medical Conditions. *Complement Ther Med*. 2020;53:102527. doi:10.1016/J.CTIM.2020.102527
362. Herman JL. Costs and Benefits of Providing Transition-Related Health Care Coverage in Employee Health Benefits Plans. Williams Institute. Published 2013. Accessed August 29, 2022. <https://williamsinstitute.law.ucla.edu/publications/trans-employee-employee-transition-coverage/>
363. Salinas JL, Salinas M, Kahn M. Doula, Racism, and Whiteness: How Birth Support Workers Process Advocacy towards Women of Color. *Soc* 2022, Vol 12, Page 19. 2022;12(1):19. doi:10.3390/SOC12010019
364. March of Dimes. March of Dimes Position Statement Doula and Birth Outcomes.; 2018.
365. Kawicka A, Regulska-Ilow B. How nutritional status, diet and dietary supplements can affect autism. A review - PubMed. *Ann Natl Inst Hyg*. 2013;64(1):1-12. Accessed May 12, 2022. <https://pubmed.ncbi.nlm.nih.gov/23789306/>
366. Academy of Nutrition and Dietetics. Academy Urges HHS to Reduce Barriers to Nutrition Services. Accessed May 12, 2022. <https://www.eatrightpro.org/news-center/on-the-pulse-of-public-policy/regulatory-comments/academy-urges-hhs-to-reduce-barriers-to-nutrition-services>
367. Heath S. What is Non-Emergency Medical Transportation, Patient Access? PatientEngagementHIT. Published 2018. Accessed May 12, 2022. <https://patientengagementhit.com/news/what-is-non-emergency-medical-transportation-patient-access>
368. Eurostat Statistics Explained. Preventable and treatable mortality statistics. Accessed June 3, 2022. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Preventable\\_and\\_treatable\\_mortality\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Preventable_and_treatable_mortality_statistics)
369. Healthy People 2030. Increase the proportion of adults who get recommended evidence-based preventive health care — AHS-08. Accessed May 2, 2022. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality/increase-proportion-adults-who-get-recommended-evidence-based-preventive-health-care-ahs-08>
370. American Hospital Association. Social Determinants of Health Series: Transportation and the Role of Hospitals. Accessed August 26, 2022. <https://www.aha.org/ahahret-guides/2017-11-15-social-determinants-health-series-transportation-and-role-hospitals>
371. Weiss DJ, Nelson A, Vargas-Ruiz CA, et al. Global maps of travel time to healthcare facilities. *Nat Med* 2020 26(12):1835-1838. doi:10.1038/s41591-020-1059-1
372. Bryant S. Transportation Barriers to Medical Appointments. Published online 2021. Accessed May 2, 2022. [https://www.montgomerycountymd.gov/OLO/Resources/Files/2021\\_Reports/OLORreport2021-11.pdf](https://www.montgomerycountymd.gov/OLO/Resources/Files/2021_Reports/OLORreport2021-11.pdf)
373. Colorado Health Institute. Increasing Coverage, Lingering Barriers. Published 2018. Accessed May 2, 2022. <https://www.coloradohealthinstitute.org/research/increasing-coverage-lingering-barriers>
374. Transportation & Health Access where are we now and where Can we go? Published online 2016.
375. Kaiser Family Foundation. Health Coverage of Immigrants. Published 2022. Accessed August 29, 2022. <https://www.kff.org/racial-equity-and-health-policy/fact-sheet/health-coverage-of-immigrants/>
376. Prentice JC, Pizer SD. Delayed access to health care and mortality. *Health Serv Res*. 2007;42(2):644-662. doi:10.1111/j.1475-6773.2006.00626.x
377. Jacobs B, Ir P, Bigdeli M, Annear PL, Damme W Van. Addressing access barriers to health services: an analytical framework for selecting appropriate interventions in low-income Asian countries. *Health Policy Plan*. 2012;27(4):288-300. doi:10.1093/heapol/czr038
378. Vinella-brusher E, Cochran AL, Iacobucci E, Wang J, Wolfe M, Oluyede L. Potential of Telehealth to Mitigate Transport Barriers: Evidence from the COVID-19 Pandemic. Published online 2022.
379. O'Keefe LC, Anderson F. Benefits of on-site clinics. *Online J Issues Nurs*. 2017;22(2). doi:10.3912/OJIN.VOL22NO02PPT51
380. Xia J, Hayes J, Gault B, Nguyen H. Paid Sick Days Access and Usage Rates Vary by Race / Ethnicity , Occupation , and Earnings. *Inst Women's Policy Res Brief Pap IWPR C*. 2016;(February):1-16.
381. Victorian Equal Opportunity & Human Rights Commission. Snapshot 3-Supporting Workers with Disability Supporting Workers with Disability Lessons for the Post-COVID Workplace.; 2020.
382. Shiri R, Turunen J, Kausto J, et al. The Effect of Employee-Oriented Flexible Work on Mental Health: A Systematic Review. *Healthc*. 2022;10(5). doi:10.3390/healthcare10050883
383. Wiest B. Remote Work Shown To Significantly Improve Mental Health, 80% Prefer Flex Options Post-Pandemic. *Forbes*. Published 2020. Accessed August 29, 2022. <https://www.forbes.com/sites/briannawiest/2020/09/11/remote-work-shown-to-significantly-improve-mental-health-80-prefer-flex-options-post-pandemic/?sh=73ca59f045d4>
384. University of British Columbia. Flexible work arrangements reduce wage gap for mothers. Published 2018. Accessed March 16, 2022. <https://www.sciencedaily.com/releases/2018/05/180510115040.htm>
385. Veitch JA. Workplace Design Contributions to Mental Health and Well-Being. *Healthc Pap*. 2011;11(Special Issue):38-46. doi:10.12927/hcpap.2011.22409

386. Mind. Guide for Employees: Wellness Action Plans (WAPs): How to Support Your Mental Health at Work. [https://www.mind.org.uk/media-a/5760/mind-guide-for-employees-wellness-action-plans\\_final.pdf](https://www.mind.org.uk/media-a/5760/mind-guide-for-employees-wellness-action-plans_final.pdf)
387. World Health Organization. Mental Health Policies and Programmes in the Workplace.; 2005. [https://apps.who.int/iris/bitstream/handle/10665/43337/9241546794\\_eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/43337/9241546794_eng.pdf)
388. Rethink Mental Illness. What's Reasonable at Work?; 2017. <https://www.rethink.org/media/2632/whats-reasonable-at-work-second-edition-1-2.pdf>
389. American Psychiatric Foundation. ICU Program Implementation Guide.; 2019. <https://www.workplacementalhealth.org/getmedia/809ee700-6c03-4f98-a875-9bc12b37aa57/ICU-Implementation-Guide>
390. Schneider D, Harknett K. It's About Time: How Work Schedule Instability Matters for Workers, Families, and Racial Inequality. *Shift*. Published 2019. Accessed March 16, 2022. <https://shift.hks.harvard.edu/its-about-time-how-work-schedule-instability-matters-for-workers-families-and-racial-inequality/>
391. Snow DL, Swan SC, Wilton LEO. A Workplace Coping-skills Intervention to Prevent Alcohol Abuse. In: Bennet JB, Lehman WEK, eds. Preventing Workplace Substance Abuse: Beyond Drug Testing to Wellness. American Psychological Association; 2003.
392. Trades Union Congress. British workers putting in longest hours in the EU, TUC analysis finds. Published 2019. Accessed May 26, 2022. <https://www.tuc.org.uk/news/british-workers-putting-longest-hours-eu-tuc-analysis-finds>
393. Haraldsson G, Kellam J. Going Public - Iceland's Journey to a Shorter Working Week. *Autonomy*. 2021;(June). [https://autonomy.work/wp-content/uploads/2021/06/ICELAND\\_4DW.pdf](https://autonomy.work/wp-content/uploads/2021/06/ICELAND_4DW.pdf)
394. Collewet M, Sauermann J. Working Hours and Productivity. *Labour Econ*. 2017;47:96-106.
395. Owan H, Shangquan R, DeVaro J. Teams become more productive when their hours are shorter. *VOX EU*. Published 2021. Accessed May 26, 2022. <https://voxeu.org/article/teams-become-more-productive-when-their-hours-are-shorter>
396. Firfiray S. Long hours at the office could be killing you – the case for a shorter working week. Published 2019. Accessed May 26, 2022. <https://theconversation.com/long-hours-at-the-office-could-be-killing-you-the-case-for-a-shorter-working-week-116369>
397. Pencavel J. The Productivity of Working Hours. *IZA*. Published online 2014. Accessed May 26, 2022. <https://docs.iza.org/dp8129.pdf>
398. Virtanen M, Singh-Manoux A, Ferrie JE, et al. Long working hours and cognitive function: The Whitehall II study. *Am J Epidemiol*. 2009;169(5):596-605. doi:10.1093/aje/kwn382
399. Winnebeck EC, Vuori-Brodowski MT, Biller AM, et al. Later school start times in a flexible system improve teenage sleep. *Sleep*. 2020;43(6):1-17. doi:10.1093/SLEEP/ZSZ307
400. Wahlstrom KL, Edwards K, Assistant Julie Gdula R, Assistant R. Examining the Impact of Later High School Start Times on the Health and Academic Performance of High School Students: A Multi-Site Study.; 2014.
401. Meltzer LJ, Wahlstrom KL, Plog AE, Strand MJ. Changing school start times: impact on sleep in primary and secondary school students. *Sleep*. 2021;44(7). doi:10.1093/SLEEP/ZSAB048
402. Fritz C, Ellis AM, Demsky C a., Lin BC, Guros F. Embracing work breaks: Recovery from work stress. *Organ Dyn*. 2013;42(January):274-280. doi:10.1016/j.orgdyn.2013.07.005
403. Centers for Disease Control and Prevention. Sleep Hygiene Tips - Sleep and Sleep Disorders. Accessed December 19, 2022. [https://www.cdc.gov/sleep/about\\_sleep/sleep\\_hygiene.html](https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.html)
404. Watson NF, Badr MS, Belenck G, Bliwise DL. Recommended amount of sleep for a healthy adult. *Am Acad Sleep Med Sleep Res Soc*. 2015;38(6):843-844. doi:10.5665/sleep.4716
405. Soboczenski F. Project: Time Off Research Overview. *Georg Tech*. 2015;(July):1-3. doi:10.1002/ddr.20008
406. Gump BB, Matthews KA. Are Vacations Good for Your Health? The 9-Year Mortality Experience After the Multiple Risk Factor Intervention Trial. *Psychosom Med*. 2000;62:608-612.
407. Redeker NS, Caruso CC, Hashmi SD, Mullington JM, Grandner M, Morgenthaler TI. Workplace interventions to promote sleep health and an alert, healthy workforce. *J Clin Sleep Med*. 2019;15(4):649-657. doi:10.5664/jcsm.7734
408. American Academy of Pediatrics. School Start Times for Adolescents. *Pediatrics*. 2014;134(3):642-649. doi:10.1542/peds.2014-1697
409. U.S. Department of Labor. Employment Characteristics of Families - 2016.; 2017. [https://www.bls.gov/news.release/archives/famee\\_04202017.pdf](https://www.bls.gov/news.release/archives/famee_04202017.pdf)
410. Slavit W. Investing in Workplace Breastfeeding Programs and Policies: An Employers Toolkit.; 2009.
411. Canadian Centre for Occupational Health and Safety. Work/Life Balance. Accessed December 9, 2022. <https://www.ccohs.ca/topics/wellness/worklife/>
412. Heymann J, Sprague AR, Nandi A, et al. Paid parental leave and family wellbeing in the sustainable development era. *Public Health Rev*. 2017;38(1). doi:10.1186/s40985-017-0067-2
413. World Policy Analysis Center. Is paid leave available to mothers and fathers of infants? Accessed June 3, 2022. <https://www.worldpolicycenter.org/policies/is-paid-leave-available-to-mothers-and-fathers-of-infants/is-paid-leave-available-for-mothers-of-infants>
414. Cheng C-Y, Fowles ER, Walker LO. Postpartum Maternal Health Care in the United States: A Critical Review. *J Perinat Educ*. 2006;15(3):34-42. doi:10.1624/105812406x119002
415. Burtle A, Bezruchka S. Population Health and Paid Parental Leave: What the United States Can Learn from Two Decades of Research. *Healthcare*. 2016;4(2):30. doi:10.3390/healthcare4020030
416. ILO. Recommendation R191 - Maternity Protection Recommendation, 2000 (No. 191). Published 2017. Accessed December 19, 2022. [https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100\\_INSTRUMENT\\_ID:312529#:~:text=\(1\) In the case of,of the postnatal maternity leave.](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312529#:~:text=(1) In the case of,of the postnatal maternity leave.)
417. Nepomnyaschy L, Waldfogel J. Paternity leave and fathers' involvement with their young children. *Community, Work Fam*. 2007;10(4):427-453. doi:10.1080/13668800701575077
418. Tanaka S, Waldfogel J. Effects of parental leave and work hours on fathers' involvement with their babies. *Community, Work Fam*. 2007;10(4):409-426. doi:10.1080/13668800701575069
419. Chatterji P, Markowitz S. Does the length of maternity leave affect maternal health? *South Econ J*. 2005;72(1):16. doi:10.1017/CBO9781107415324.004
420. Carneiro P, Løken K V., Salvanes KG. A Flying Start? Maternity Leave Benefits and Long-Run Outcomes of Children. *J Polit Econ*. 2015;123(2):365-412. doi:10.1086/679627
421. Tanaka S. Parental leave and child health across OECD countries. *Econ J*. 2005;115(501):F7-F28. doi:10.1111/j.0013-0133.2005.00970.x
422. Rossin-Slater M. Maternity and Family Leave Policy.; 2017. doi:10.3386/w23069
423. Waldfogel J. International Policies toward Parental Leave and Child Care. *Futur Child*. 2001;11(1):98. doi:10.2307/1602812
424. U.S. Department of Labor. Paternity Leave: Why Parental Leave for Fathers Is so Important for Working Families.; 2012. <https://www.dol.gov/sites/dolgov/files/OASP/Paternity-Leave.pdf>

425. Coulson M, Skouteris H, Dissanayake C. The role of planning, support, and maternal and infant factors in women's return to work after maternity leave. *Fam Matters*. 2012;90(1):33-44.
426. Galtry J, Callister P. Assessing the Optimal Length of Parental Leave for Child and Parental Well-Being How Can Research Inform Policy? Published online 2005. doi:10.1177/0192513X04270344
427. Huerta MC, Adema W, Baxter J, et al. Fathers' Leave and Fathers' Involvement: Evidence from Four OECD Countries. *Eur J Soc Secur*. 2014;16(4):308-346. doi:10.1177/138826271401600403
428. Family Caregiver Alliance. Caregiver Statistics: Work and Caregiving. Accessed July 26, 2022. <https://www.caregiver.org/resource/caregiver-statistics-work-and-caregiving/>
429. AARP Public Policy Institute. Caregiving in the U.S. 2020.; 2019.
430. Buckley T, Sunari D, Marshall A, Bartrop R, McKinley S, Tofler G. Physiological correlates of bereavement and the impact of bereavement interventions. *Dialogues Clin Neurosci*. 2012;14(2):129-139.
431. Greenberg E. Paid Bereavement Leave Around the World. *Papaya Global*. Published 2019. Accessed May 26, 2022. <https://www.papayaglobal.com/blog/bereavement-leave-around-the-world/>
432. James J, Friedman R, Cline E. Grief Index : The "Hidden" Annual Costs of Grief in America's Workplace : 2003 Report.; 2003.
433. State of New York. Paid Family Leave for Family Care. Accessed December 9, 2022. <https://paidfamilyleave.ny.gov/paid-family-leave-family-care>
434. Society for Human Resource Management. Customized Paid Leave Benchmarking Report. Published online 2017:43.
435. Society for Human Resource Management. Examining Paid Leave in the Workplace. Published online 2008:32.
436. National Hospice and Palliative Care Organization. When an Employee Suffers a Loss. Published 2008. Accessed December 9, 2022. <https://www.agis.com/Document/4470/workplace---when-an-employee-suffers-a-loss.html>
437. Aoun SM, Rumbold B, Howting D, Bolleter A, Breen LJ. Bereavement support for family caregivers: The gap between guidelines and practice in palliative care. *van Wouwe JP, ed. PLoS One*. 2017;12(10):e0184750. doi:10.1371/journal.pone.0184750
438. World Health Organization. Mental disorders. Published 2022. Accessed December 9, 2022. <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>
439. Hanisch SE, Twomey CD, Szeto ACH, Birner UW, Nowak D, Sabariego C. The effectiveness of interventions targeting the stigma of mental illness at the workplace: a systematic review. *BMC Psychiatry*. 2016;16(1):1. doi:10.1186/s12888-015-0706-4
440. Centers for Disease Control and Prevention. The Mental Health of People with Disabilities. Published 2020. Accessed March 16, 2022. <https://www.cdc.gov/ncbddd/disabilityandhealth/features/mental-health-for-all.html>
441. Melbourne School of Population and Global Health. Workplace Prevention of Mental Health Problems: Guidelines for Organisations.; 2013.
442. Wang PS, Berglund P, Olsson M, Pincus HA, Wells KB, Kessler RC. Failure and delay in initial treatment contact after first onset of mental disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005;62(6):603-613. doi:10.1001/archpsyc.62.6.603
443. National Alliance on Mental Illness-NYC, Northeast Business Group on Health, Partnership for Workplace Mental Health/American Psychiatric Association Foundation, PricewaterhouseCoopers, The Kennedy Forum. Working Well: Leading a Mentally Healthy Business.; 2016.
444. Miles LW, Williams N, Luthy KE, Eden L. Adult Vaccination Rates in the Mentally Ill Population: An Outpatient Improvement Project. *J Am Psychiatr Nurses Assoc*. 2020;26(2):172-180. doi:10.1177/1078390319831763
445. Murphy KA, Stone EM, Presskreischer R, McGinty EE, Daumit GL, Pollack CE. Cancer screening among adults with and without serious mental illness: a mixed methods study. *Med Care*. 2021;59(4):327. doi:10.1097/MLR.0000000000001499
446. Weinstein LC, Stefancic A, Cunningham AT, Hurley KE, Cabassa LJ, Wender RC. Cancer screening, prevention, and treatment in people with mental illness. *CA Cancer J Clin*. 2016;66(2):133-151. doi:10.3322/CAAC.21334
447. Ross LE, Vigod S, Wishart J, et al. Barriers and facilitators to primary care for people with mental health and/or substance use issues: A qualitative study. *BMC Fam Pract*. 2015;16(1):1-13. doi:10.1186/S12875-015-0353-3/TABLES/2
448. Centers for Disease Control and Prevention. Depression Evaluation Measures. Published 2016. Accessed August 29, 2022. <https://www.cdc.gov/workplacehealthpromotion/health-strategies/depression/evaluation-measures/index.html>
449. World Health Organization. Mental health in emergencies. Published 2022. Accessed December 9, 2022. <https://www.who.int/news-room/fact-sheets/detail/mental-health-in-emergencies>
450. United Nations. COVID-19 and the Need for Action on Mental Health.; 2020. <https://unsdg.un.org/sites/default/files/2020-05/UN-Policy-Brief-COVID-19-and-mental-health.pdf>
451. Langarizadeh M, Tabatabaei MS, Tavakol K, Naghipour M, Rostami A, Moghbeli F. Telemental Health Care, an Effective Alternative to Conventional Mental Care: a Systematic Review. *Acta Inform Med*. 2017;25(4):240-246. doi:10.5455/aim.2017.25.240-246
452. Wellmark. How your employees benefit from mentorship. Published 2020. Accessed March 17, 2022. <https://www.wellmark.com/blue-at-work/healthy-employees/mentoring-in-the-workplace>
453. Washington State University. Financial Mental Health and Housing Stability. Accessed March 17, 2022. <https://wellbeingonline.wsu.edu/wellbeing-online/financial/financial-mental-health-and-housing-stability/>
454. Wronski L. Nine in 10 workers who have a mentor say they are happy in their jobs. *CNBC*. Accessed March 17, 2022. <https://www.cnbc.com/2019/07/16/nine-in-10-workers-who-have-a-mentor-say-they-are-happy-in-their-jobs.html>
455. Cronin N. Mentoring Statistics: The Research You Need To Know. *Guider*. Accessed March 17, 2022. <https://www.guider-ai.com/blog/mentoring-statistics-the-research-you-need-to-know>
456. Omadeke J. What's the Difference Between a Mentor and a Sponsor? *Harvard Business Review*. Published 2021. Accessed March 17, 2022. <https://hbr.org/2021/10/whats-the-difference-between-a-mentor-and-a-sponsor>
457. Yorges S. 5 Alternatives When You Can't Find a Good Mentor – Leading Higher. *Leading Higher*. Accessed May 13, 2022. <https://leadinghigher.com/5-alternatives-to-a-mentor/>
458. Van R. How Guest Speakers Can Boost Your Business. *The Manifest*. Accessed May 13, 2022. <https://themanifest.com/business-services/resources/how-guest-speakers-can-boost-business>
459. Konrad M. Tuition Assistance: The Benefit That Boosts Retention - Scholarship America. *Scholarship America*. Published 2019. Accessed March 17, 2022. <https://scholarshipamerica.org/blog/tuition-assistance-the-secret-benefit-that-boosts-employee-retention/>
460. Craig R. Tuition Assistance Programs: The Secret Employee Benefit. *Forbes*. Published 2016. Accessed March 17, 2022. <https://www.forbes.com/sites/ryanacraig/2016/11/03/tuition-assistance-programs-the-secret-employee-benefit/?sh=47282ab642cf>
461. Edcor. Student Loan Repayment Increases Diversity & Inclusion. Accessed August 29, 2022. [https://www.edcor.com/wp-content/uploads/2020/01/Edcor\\_wp\\_student\\_loan\\_repayment\\_assistance\\_raises\\_diversity\\_and\\_inclusion.pdf](https://www.edcor.com/wp-content/uploads/2020/01/Edcor_wp_student_loan_repayment_assistance_raises_diversity_and_inclusion.pdf)

462. Bright Horizons Family Solutions. New Study Shows the Lasting Impact of Tuition Assistance. Businesswire. Published 2018. Accessed March 17, 2022. <https://www.businesswire.com/news/home/20180108006550/en/New-Study-Shows-Lasting-Impact-Tuition-Assistance>
463. WorkSafeBC. Addressing family violence in the workplace. Published 2012. <https://www.worksafebc.com/resources/health-safety/books-guides/addressing-domestic-violence-in-the-workplace-a-handbook-for-employers?lang=en&direct>
464. Hrelac DA. Intimate partner violence in pregnancy - American Nurse. American Nurse. Published 2019. Accessed March 16, 2022. <https://www.myamericannurse.com/intimate-partner-violence-in-pregnancy/>
465. Centers for Disease Control and Prevention. Sexual Violence and Intimate Partner Violence Among People with Disabilities. 2020. Accessed March 16, 2022. <https://www.cdc.gov/violenceprevention/sexualviolence/svandipv.html>
466. Fanslow JL, Malihi ZA, Hashemi L, Gulliver PJ, McIntosh TKD. Lifetime Prevalence of Intimate Partner Violence and Disability: Results From a Population-Based Study in New Zealand. *Am J Prev Med.* 2021;61(3):320-328. doi:10.1016/J.AMEPRE.2021.02.022
467. Chirwa E, Jewkes R, Van Der Heijden I, Dunkle K. Intimate partner violence among women with and without disabilities: a pooled analysis of baseline data from seven violence-prevention programmes. *BMJ Glob Heal.* 2020;5(11):e002156. doi:10.1136/BMJGH-2019-002156
468. The Women of Color Network I. Domestic Violence in Communities of Color. Accessed March 16, 2022. <https://wocninc.org/wp-content/uploads/2018/11/DVFAQ-1.pdf>
469. Human Rights Campaign Foundation. The Economic Impact of COVID-19 Intensifies For Transgender and LGBTQ Communities of Color.; 2020. Accessed March 16, 2022. [https://assets2.hrc.org/files/assets/resources/COVID19-EconImpact-Trans-POC-061520.pdf?\\_ga=2.178180963.7552753.1671477625-1365866105.1649345043](https://assets2.hrc.org/files/assets/resources/COVID19-EconImpact-Trans-POC-061520.pdf?_ga=2.178180963.7552753.1671477625-1365866105.1649345043)
470. James SE, Herman JL, Rankin S, Keisling M, Mottet L, Anafi M. The Report of the 2015 U.S. Transgender Survey.; 2016.
471. American Civil Liberties Union. Domestic Violence and Homelessness.; 2006. <https://www.aclu.org/other/domestic-violence-and-homelessness>
472. The World Bank. Women, Business and the Law.; 2015. doi:10.1596/978-1-4648-0677-3
473. Public Health England, Business in the Community. Domestic Abuse: A Toolkit for Employers.; 2019. <https://www.bitc.org.uk/wp-content/uploads/2021/07/bitc-wellbeing-toolkit-domesticabuseforemployers-june2021.pdf>
474. Congress of the Philippines. Republic Act No. 9262 An Act Defining Violence Against Women and Their Children, Providing for Protective Measures for Victims Prescribing Penalties There.; 2004.
475. New Zealand Government. Family Violence Act 2018 No 46 (as at 07 August 2020), Public Act Contents – New Zealand Legislation.; 2018. <https://www.justice.govt.nz/justice-sector-policy/key-initiatives/addressing-family-violence-and-sexual-violence/a-new-family-violence-act/>
476. Government of Alberta. RSA 2000, c P-27 | Protection Against Family Violence Act. CanLII; 2018.
477. U.S. Department of Health and Human Services. Executive Summary: The Surgeon General’s Call to Action to Support Breastfeeding. *Off Surg Gen.* Published online 2011.
478. Shealy K, Li R, Benton-Davis S, Grummer-Strawn LM. Support for breastfeeding in the workplace. Published online 2005. doi:10.1097/00006223-200003000-00003
479. Slusser W. Breastfeeding and Maternal and Infant Health Outcomes In Developed Countries. *AAP Gd Rounds.* 2007;18(2):15-16. doi:10.1542/gr.18-2-15
480. Baker JL, Gamborg M, Heitmann BL, Lissner L, Sørensen TIA, Rasmussen KM. Breastfeeding reduces postpartum weight retention. *Am J Clin Nutr.* 2008;88(6):1543-1551. doi:10.3945/ajcn.2008.26379
481. American Academy of Pediatrics Subcommittee on Hyperbilirubinemia C, Greer F, Heinig M, Cohen R, Cook D. Breastfeeding and the Use of Human Milk. *Pediatrics.* 2012;120(6):1376-1376. doi:10.1542/peds.2007-2901
482. World Health Organization. Breastfeeding. Accessed December 9, 2022. [https://www.who.int/health-topics/breastfeeding#tab=tab\\_1](https://www.who.int/health-topics/breastfeeding#tab=tab_1)
483. UNICEF. Infant and young child feeding. 2021. Accessed August 29, 2022. <https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/>
484. Tsai S-Y. Impact of a Breastfeeding-Friendly Workplace on an Employed Mother’s Intention to Continue Breastfeeding After Returning to Work. *Breastfeed Med.* 2013;8(2):210-216. doi:10.1089/bfm.2012.0119
485. Mills SP. Workplace Lactation Programs. *AAOHN J.* 2009;57(6):227-231. doi:10.3928/08910162-20090518-02
486. York L, Lee J. AIA Best Practices: Lactation / Wellness Room Design. Published online 2016. <https://wellnessroomsite.files.wordpress.com/2016/08/17-0908-eng.pdf>
487. de Bloom J, Kompier M, Geurts S, de Weerth C, Taris T, Sonnentag S. Do we recover from vacation? Meta-analysis of vacation effects on health and well-being. *J Occup Health.* 2009;51(1):13-25. doi:10.1539/joh.k8004
488. Smolders KCHJ, de Kort YAW, Tenner AD, Kaiser FG. Need for recovery in offices: Behavior-based assessment. *J Environ Psychol.* 2012;32(2):126-134. doi:https://doi.org/10.1016/j.jenvp.2011.12.003
489. Smet A De, Tegelberg L, Theunissen R, Vogel T. Overcoming pandemic fatigue: How to reenergize organizations for the long run. McKinsey & Company. Published 2020. Accessed August 29, 2022. <https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/overcoming-pandemic-fatigue-how-to-reenergize-organizations-for-the-long-run>
490. Maven Clinic, Great Place To Work. Working Parents , Burnout & the Great Resignation Half a Million Working.; 2021. <https://www.greatplacetowork.com/resources/videos/working-parents-burnout-the-great-resignation>
491. Raymaker DM, Teo AR, Steckler NA, et al. "Having All of Your Internal Resources Exhausted Beyond Measure and Being Left with No Clean-Up Crew": Defining Autistic Burnout. *Autism in Adulthood.* 2020;2(2):132. doi:10.1089/AUT.2019.0079
492. Sallis JF, Bull F, Guthold R, et al. Progress in physical activity over the Olympic quadrennium. *Lancet.* 2017;388(10051):1325-1336. doi:10.1016/S0140-6736(16)30581-5
493. World Health Organization. Physical Activity. Published 2020. <https://www.who.int/news-room/fact-sheets/detail/physical-activity>
494. Centers for Disease Control and Prevention. Adult Physical Inactivity Prevalence Maps by Race/Ethnicity. Published 2022. Accessed June 3, 2022. <https://www.cdc.gov/physicalactivity/data/inactivity-prevalence-maps/index.html>
495. Hornbuckle LM. Running while Black: A distinctive safety concern and barrier to exercise in White neighborhoods. *Prev Med Reports.* 2021;22:101378. doi:10.1016/J.PMEDR.2021.101378
496. Joseph RP, Ainsworth BE, Keller C, Dodgson JE. Barriers to Physical Activity Among African American Women: An Integrative Review of the Literature. *Women Health.* 2015;55(6):679. doi:10.1080/03630242.2015.1039184
497. Mailey EL, Huberty J, Dinkel D, McAuley E. Physical activity barriers and facilitators among working mothers and fathers. *BMC Public Health.* 2014;14(1):1-9. doi:10.1186/1471-2458-14-657/TABLES/1
498. Mercurio LY, Amanullah S, Gill N, Gjelsvik A. Children With ADHD Engage in Less Physical Activity. *J Atten Disord.* 2021;25(8):1187-1195. doi:10.1177/1087054719887789
499. Rassovsky Y, Alfassi T. Attention Improves During Physical Exercise in Individuals With ADHD . *Front Psychol .* 2019;9.

<https://www.frontiersin.org/article/10.3389/fpsyg.2018.02747>

500. Fritz KM, O'Connor PJ. Acute exercise improves mood and motivation in young men with ADHD symptoms. *Med Sci Sports Exerc.* 2016;48(6):1153-1160. doi:10.1249/MSS.0000000000000864
501. Mehren A, Özyurt J, Thiel CM, Brandes M, Lam AP, Philipsen A. Effects of Acute Aerobic Exercise on Response Inhibition in Adult Patients with ADHD. *Sci Reports* 2019 91. 2019;9(1):1-13. doi:10.1038/s41598-019-56332-y
502. Mehren A, Reichert M, Coghill D, Müller HHO, Braun N, Philipsen A. Physical exercise in attention deficit hyperactivity disorder – evidence and implications for the treatment of borderline personality disorder. *Borderline Personal Disord Emot Dysregulation.* 2020;7(1). doi:10.1186/S40479-019-0115-2
503. Wu F, Takaro TK. Childhood Asthma and Environmental Interventions. *Environ Health Perspect.* 2007;115(6):971. doi:10.1289/EHP.8989
504. Calderón MA, Linneberg A, Kleine-Tebbe J, et al. Respiratory allergy caused by house dust mites: What do we really know? *J Allergy Clin Immunol.* 2015;136(1):38-48. doi:10.1016/J.JACI.2014.10.012
505. Garza JL, Jennifer Cavallari ĀM, Wakai S, et al. Traditional and Environmentally Preferable Cleaning Product Exposure and Health Symptoms in Custodians. doi:10.1002/ajim.22484
506. Occupational Safety and Health Administration, National Institute for Occupational Safety and Health. Protecting Workers Who Use Cleaning Chemicals Workplaces.; 2012. Accessed March 9, 2022. [www.epa.gov/greenerproducts](http://www.epa.gov/greenerproducts)
507. Women's Voices for the Earth. Focus on Cleaning Products Specifically Targeted to and Used by the Latinx Community. Accessed March 16, 2022. <https://www.womensvoices.org/beyondthelabel/cleaning-products-marketed-latinx-community/>
508. Steinemann A. Fragranced consumer products: effects on autistic adults in the United States, Australia, and United Kingdom. *Air Qual Atmos Heal.* 2018;11(10):1137-1142. doi:10.1007/S11869-018-0625-X/TABLES/3
509. Steinemann A. International prevalence of chemical sensitivity, co-prevalences with asthma and autism, and effects from fragranced consumer products. *Air Qual Atmos Heal.* 2019;12(5):519-527. doi:10.1007/S11869-019-00672-1/TABLES/5
510. Standard Guide for Stewardship for the Cleaning of Commercial and Institutional Buildings. ASTM International; 2019.
511. Gakidou E, Afshin A, Abajobir AA, et al. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-2016: A systematic analysis for the Global Burden of Disease Study 2016. *Lancet.* 2017;390(10100):1345-1422. doi:10.1016/S0140-6736(17)32366-8
512. Union of Concerned Scientists. The Devastating Consequences of Unequal Food Access.; 2016. Accessed March 16, 2022. <https://www.ucsusa.org/resources/devastating-consequences-unequal-food-access>
513. Kenney J, Garza M, Skoler E. How Race and Ethnicity Affect Diabetes Prevalence, Management, and Complications. *Diatribes Learn.* Published 2021. Accessed August 29, 2022. <https://diatribes.org/how-race-and-ethnicity-affect-diabetes-prevalence-management-and-complications>
514. U.S. Department of Health and Human Services, U.S. Department of Agriculture. Dietary Guidelines for Americans, 2015-2020. Published online 2015.
515. Morland KB, Evenson KR. Obesity prevalence and the local food environment. *Heal Place.* 2009;15(2):491-495. doi:10.1016/j.healthplace.2008.09.004
516. Kiszko KM, Martinez OD, Abrams C, Elbel B. The Influence of Calorie Labeling on Food Orders and Consumption: A Review of the Literature. *J Community Health.* 2014;39(6):1248-1269. doi:10.1007/s10900-014-9876-0
517. Skov LR, Lourenço S, Hansen GL, Mikkelsen BE, Schofield C. Choice architecture as a means to change eating behaviour in self-service settings: A systematic review. *Obes Rev.* 2013;14(3):187-196. doi:10.1111/j.1467-789X.2012.01054.x
518. Chen R, Smyser M, Chan N, Ta M, Saelens BE, Krieger J. Changes in awareness and use of calorie information after mandatory menu labeling in restaurants in King County, Washington. *Am J Public Health.* 2015;105(3):546-553. doi:10.2105/AJPH.2014.302262
519. The Nielsen Company. What's in Our Food and on Our Mind: Ingredient and Dining-Out Trends Around the World.; 2016.
520. UNICEF. Why family-friendly policies are critical to increasing breastfeeding rates worldwide. Published 2019. Accessed May 26, 2022. <https://www.unicef.org/press-releases/why-family-friendly-policies-are-critical-increasing-breastfeeding-rates-worldwide>
521. World Health Organization. Babies and mothers worldwide failed by lack of investment in breastfeeding. Published 2017. Accessed May 26, 2022. <https://www.who.int/news/item/01-08-2017-babies-and-mothers-worldwide-failed-by-lack-of-investment-in-breastfeeding>
522. National Institutes of Health. Lactation Room Requirements.; 2016. Accessed September 1, 2022. [https://orf.od.nih.gov/TechnicalResources/Documents/News to Use PDF Files/2016 NTU/Lactation Room Requirements - June 2016 News to Use\\_508.pdf](https://orf.od.nih.gov/TechnicalResources/Documents/News%20to%20Use%20PDF%20Files/2016%20NTU/Lactation%20Room%20Requirements%20-%20June%202016%20News%20to%20Use_508.pdf)
523. Bernard M. Priming the Pump: Lactation Room Design Guidelines | Architect Magazine. *Architect.* Published 2018. Accessed May 4, 2022. [https://www.architectmagazine.com/practice/priming-the-pump-lactation-room-design-guidelines\\_o](https://www.architectmagazine.com/practice/priming-the-pump-lactation-room-design-guidelines_o)
524. Nejati A, Rodiek S, Shepley M. The implications of high-quality staff break areas for nurses' health, performance, job satisfaction and retention. *J Nurs Manag.* 2016;24(4):512-523. doi:10.1111/jonm.12351
525. Marquardt C, Veitch J, Charles K. Environmental Satisfaction with Open-Plan Office Furniture Design and Layout - NRC Publications Archive - Canada.ca. Research Report RR-106. Published 2002. Accessed April 28, 2022. <https://nrc-publications.canada.ca/eng/view/object/?id=149a7f17-b3d0-45a4-92c7-783f46360c50>

## APPENDIX 4:

526. Shu S, Ma H. Restorative Effects of Classroom Soundscapes on Children's Cognitive Performance. *Int J Environ Res Public Health*. 2019;16(2). doi:10.3390/IJERPH16020293
527. Zhang H, Arens E, Pasut W. Air temperature thresholds for indoor comfort and perceived air quality. *Build Res Inf*. 2011;39(2):134-144. doi:10.1080/09613218.2011.552703
528. Berman MG, Jonides J, Kaplan S. The cognitive benefits of interacting with nature. *Psychol Sci*. 2008;19(12):1207-1212. doi:10.1111/j.1467-9280.2008.02225.x
529. Martinez Castro I. Space to Connect. *Facil Manag J*. Published online 2019. [http://fmj.ifma.org/publication/?i=539510&article\\_id=3230712&view=articleBrowser](http://fmj.ifma.org/publication/?i=539510&article_id=3230712&view=articleBrowser)
530. Li X, Zhang Z, Gu M, et al. Effects of plantscape colors on psycho-physiological responses of university students. *J Food, Agric Environ*. 2008;10(1):702-708.
531. Kelz C, Grote V, Moser M. Interior Wood Use in Classrooms Reduce Pupils' Stress Levels. In: *Proceedings of the 9th Biennial Conference on Environmental Psychology*. ; 2011.
532. Vartanian O, Navarrete G, Chatterjee A, et al. Preference for curvilinear contour in interior architectural spaces: Evidence from experts and nonexperts. *Psychol Aesthetics, Creat Arts*. 2019;13(1):110-116. doi:10.1037/ACA0000150
533. Margulis ST. Privacy as a social issue and behavioral concept. *J Soc Issues*. 2003;59(2):243-261. doi:10.1111/1540-4560.00063
534. Task Force on Community Preventive Services. *Physical Activity: Creating or Improving Places for Physical Activity*. Published 2001. Accessed December 9, 2022. <https://www.thecommunityguide.org/findings/physical-activity-creating-or-improving-places-physical-activity>
535. U.S. Green Building Council. LEED v4 BD+C: New Construction. *Innovation: Design for Active Occupants*. Accessed December 9, 2022. <https://www.usgbc.org/credits/new-construction-schools-new-construction-retail-new-construction-hospitality-new>
536. Sport England. *Fitness and Exercise Spaces*. Published 2008. Accessed December 9, 2022. <http://direct.sportengland.org/media/4203/fitness-and-exercise-spaces.pdf>
537. Tjalvin G, Svanes Ø, Igland J, et al. Maternal preconception occupational exposure to cleaning products and disinfectants and offspring asthma. *J Allergy Clin Immunol*. 2022;149(1):422-431.e5. doi:10.1016/J.JACI.2021.08.025
538. Moyce SC, Schenker M. *Migrant Workers and Their Occupational Health and Safety*. <https://doi.org/10.1146/annurev-publhealth-040617-013714>. 2018;39:351-365. doi:10.1146/ANNUREV-PUBLHEALTH-040617-013714
539. Zock J-P, Plana E, Jarvis D, et al. The use of household cleaning sprays and adult asthma: an international longitudinal study. *Am J Respir Crit Care Med*. 2007;176(8):735-741. doi:10.1164/rccm.200612-1793OC
540. Harley KG, Calderon L, Nolan JES, et al. Changes in Latina Women's Exposure to Cleaning Chemicals Associated with Switching from Conventional to "Green" Household Cleaning Products: The LUCIR Intervention Study. *Environ Health Perspect*. 2021;129(9). doi:10.1289/EHP8831
541. Global Ecolabelling Network. *Environmental standards for eco-friendly products*. Accessed March 9, 2022. <https://globalecolabelling.net/eco/eco-friendly-products-by-category/>
542. European Parliament and the Council of the European Union. Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). *Off J Eur Union*. 2015;830.
543. SB-258 Cleaning Product Right to Know Act of 2017. State of California; 2017. [https://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=20170180SB258](https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=20170180SB258)
544. National Institutes of Health. *GHS Classification*. Accessed March 9, 2022. <https://pubchem.ncbi.nlm.nih.gov/ghs/>
545. Hawkesworth S, Silverwood RJ, Armstrong B, et al. Investigating the importance of the local food environment for fruit and vegetable intake in older men and women in 20 UK towns: A cross-sectional analysis of two national cohorts using novel methods. *Int J Behav Nutr Phys Act*. 2017;14(1):1-14. doi:10.1186/S12966-017-0581-0/TABLES/4
546. Swinburn B, Egger G, Raza F. Dissecting obesogenic environments: The development and application of a framework for identifying and prioritizing environmental interventions for obesity. *Prev Med (Baltim)*. 1999;29(6 I):563-570. doi:10.1006/pmed.1999.0585
547. *The State of Food Security and Nutrition in the World 2021*. FAO, IFAD, UNICEF, WFP and WHO; 2021. doi:10.4060/CB4474EN
548. Crompt D, Cheadle A, Solomon L, Maring P, Wong E, Reed KM. Kaiser Permanente's Farmers' Market Program: Description, impact, and lessons learned. *J Agric*. 2011;2(22):29-36. doi:10.5304/jafscd.2012.022.010
549. Freedman DA, Choi SK, Hurley T, Anadu E, Hebert J. A Farmers' Market at a Federally Qualified Health Center Improves Fruit and Vegetable Intake among Low-income Diabetics. *Prev Med*. 2014;56(5):288-292. doi:10.1016/j.ypmed.2013.01.018.A
550. Lamichhane AP, Puett R, Porter DE, Bottai M, Mayer-Davis EJ, Liese AD. Associations of built food environment with body mass index and waist circumference among youth with diabetes. *Int J Behav Nutr Phys Act*. 2012;9:81. doi:10.1186/1479-5868-9-81
551. Morland K, Wing S, Roux AD. The Contextual Effect of the Local Food Environment on Resident's Diets: The Atherosclerosis Risk in Communities Study. *Am J Public Health*. 2001;92(11):1761-1768.
552. Moore L V., Diez Roux A V., Nettleton JA, Jacobs DR. Associations of the local food environment with diet quality - A comparison of assessments based on surveys and geographic information systems. *Am J Epidemiol*. 2008;167(8):917-924. doi:10.1093/aje/kwm394
553. Larson NI, Story MT, Nelson MC. Neighborhood environments: disparities in access to healthy foods in the U.S. *Am J Prev Med*. 2009;36(1):74-81. doi:10.1016/j.amepre.2008.09.025
554. U.S. Green Building Council. *LEED BD+C: Core and Shell | v4 - LEED v4 Surrounding density and diverse uses*.
555. U.S. Green Building Council. *LEED ND: Plan | v4 - LEED v4 Local food production*. Accessed December 9, 2022. <https://www.usgbc.org/credits/neighborhood-development-plan-neighborhood-development/v4-draft/npdc13>
556. M Farley S, Sacks R, Dannefer R, et al. Evaluation of the New York City Green Carts program. *AIMS Public Heal*. 2015;2(4):906-918. doi:10.3934/publichealth.2015.4.906
557. World Health Organization. *Guideline: Sugars intake for adults and children*. Published online 2015. <https://www.who.int/publications/i/item/9789241549028>
558. Malik VS, Popkin BM, Bray GA, Despres J-P, Hu FB. Sugar-Sweetened Beverages, Obesity, Type 2 Diabetes Mellitus, and Cardiovascular Disease Risk. *Circulation*. 2010;121(11):1356-1364. doi:10.1161/CIRCULATIONAHA.109.876185
559. Eckel RH, Jakicic JM, Ard JD, et al. 2013 AHA/ACC guideline on lifestyle management to reduce cardiovascular risk: A report of the American College of cardiology/American Heart Association task force on practice guidelines. *Circulation*. 2014;129(25 SUPPL. 1):S76-99. doi:10.1161/01.cir.0000437740.48606.d1
560. Cohen JFW, Rifas-Shiman SL, Young J, Oken E. Associations of Prenatal and Child Sugar Intake With Child Cognition. *Am J Prev Med*. 2018;54(6):727-735. doi:10.1016/J.AMEPRE.2018.02.020
561. U.S. Department of Agriculture. *Grains | MyPlate*. Accessed August 29, 2022. <https://www.myplate.gov/eat-healthy/grains>
562. Ahluwalia N, Herrick KA, Terry AL, Hughes JP. Contribution of Whole Grains to Total Grains Intake Among Adults Aged 20 and Over: United States, 2013–2016. *Centers for Disease Control and Prevention*. Published 2019. Accessed March 16, 2022. <https://www.cdc.gov/nchs/products/databriefs/db341.htm>