WELL V2:

EVIDENCE BEHIND THE **MIND** CONCEPT

FEATURE M01: MENTAL HEALTH PROMOTION

OVERVIEW

Part 1: Implement policies, programs and education that support occupant mental health, as well as provide communications to all regular building occupants and onboarding to all new employees about available mental health and well-being resources and offerings.

SCIENTIFIC BACKGROUND

- The World Health Organization (WHO) defines mental health as "a state of well-being in which every individual realizes [their] own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to [their] community."[1]
- An estimated 18% of adults will experience a common mental health condition, such as anxiety, depression or substance abuse, over a 12-month period, and over 30% of adults will experience a mental health condition during their lifetime.[2]
- In 2016, more than one billion people in the world suffered from a mental health condition, such as depression, anxiety, or substance abuse and addiction, which often are exhibited as comorbid conditions.[3-5]
    - Mental health conditions include a number of symptoms related to mental health that may or may not result in a diagnosis.
- Health literacy is defined as a person's cognitive and social ability to access, correctly interpret and understand basic health information.[6-9] To effectively promote and maintain both individual and community health, individuals must have access to the resources needed to act on health information.[6-9]
    - A key component of health literacy is mental health literacy. Mental health literacy includes understanding mental health conditions and their respective treatments, promoting health-seeking behaviors and decreasing stigma associated with mental health conditions.[10]

KEY HEALTH AND WELL-BEING EFFECTS

- Determinants of mental health range from social conditions to environmental factors to genetics to stress.[11] The indirect effects of social and economic stature, such as standards of living, political agendas, social protections and working conditions, either support or create barriers for those who have mental health conditions.[11]
- Chronic, long-term exposure to stress is strongly associated with negative effects on the cardiovascular and immune systems, making people more vulnerable to communicable ailments, such as the common cold.[12-17]
- Depression is the leading cause of disability worldwide and is associated with an increased risk of suicide and chronic diseases, such as cardiovascular disease, cerebrovascular disease and diabetes.[18-24]
- Alcohol and drug use contribute significantly to the global burden of premature death and disability.[25] In 2015, an estimated 167,750 deaths were attributable to substance use disorders.[26]
    - Substance use disorders can develop from a range substances, such as alcohol and prescription and illegal drugs.[27]
- Worldwide, an estimated 27.1 million disability-adjusted life years (DALYs) are attributable to anxiety.[28] Depressive disorders account for more than 43.1 million DALYs, with a heavy burden (80%) falling on low- and middle-income countries.[29,30] Substance use disorders account for 44.7 million DALYs. These statistics highlight the prevalence of mental health conditions globally.[31]
    - To quantify the burden a disease puts on a population, researchers calculate disability-adjusted life years (DALYs), which represent one lost "healthy" year. DALYs are determined by summing the Years of Life Lost (YLL), which accounts for cases where people die prematurely due to disease, with the Years Lived with Disability (YLD), which accounts for cases where people live with a condition or its consequences in a reduced state of health.[32]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- In general, the workplace can be an effective vehicle for health promotion.[33-36] Workplace programming that addresses mental health, especially programming directed at improving mental health literacy through education and trainings, has been shown to promote better healthcare service utilization and improve attitudes about mental health.[37-39]

    - Education and training examples include Mental Health First Aid (MHFA) trainings, role play, workshops, Trauma Risk Management (TRiM) and Crisis Intervention Training (CIT).[38]
- Health promotion and communication efforts that are tailored to specific audiences and their needs are the most effective.[40] Therefore, when designing and implementing workplace health initiatives, organizations should consider the specific needs and current competencies of the population of interest, as well as the culture and norms of the organization.[41,42]
    - Key factors in cultivating an informed and empowered workforce include, hiring a workplace health promotion staff with expertise in health literacy and gathering feedback on health services from those who use them and distributing resources tailored to need (i.e., confirming information is literacy-level appropriate).[42]
- Workplaces may further support employees by consistently communicating opportunities for resource utilization.[43] For example, making health information more accessible has been shown to improve employee awareness of common health issues (e.g., physical health, mental health). Additional research suggests that empowering employees to take action towards addressing or improving health and well-being offers additional benefits.[44-47]

ADDITIONAL NOTES

- The likelihood of certain mental health conditions differs by gender. Studies report that depression, anxiety and some phobias are more common in women, and antisocial personality disorder and substance abuse are more common in men.[29,48-51]
- There are also age-based differences. Studies show that the age of onset of disease for mood, anxiety and substance use disorders typically emerge in childhood, early adolescence or early adulthood, prior to 25 years of age.[52,53] Older adult populations (55 years of age and older) have an increased risk of developing anxiety, mood disorders and cognitive impairment and are at greater risk to die by suicide as compared to other age groups.[54]
- High-stress events put individuals at risk for both short- and long-term mental health problems. Therefore, mental health and psychosocial needs should be considered in an organization's response plans for emergency situations (e.g., natural disasters or disease outbreaks).[55] For example, research on past infectious disease outbreaks highlights the widespread negative impact that adversity can have on a population's mental health.[55]

FEATURE M02: NATURE AND PLACE

OVERVIEW

Part 1: Provide a connection to nature for occupants via natural materials and imaging aesthetics, as well as natural elements such as plants, water, daylight or nature scenes.
Part 2: Provide a connection to the project's unique identity through design elements, such as art or flora, that represent and celebrate the occupants, workplace and the surrounding community.

SCIENTIFIC BACKGROUND

- More than half of the world's population lives in urban environments, a percentage that is expected to increase to two-thirds by 2050.[56] The global trend toward urbanization, along with a change in lifestyle that causes depletion of natural resources, coincides with this shift towards urbanization and further removes humans from nature.[57,58]
- The biophilia hypothesis suggests that humans have an innate affinity for the natural world.[59] This affinity reflects the adaptive evolutionary behavior of humans who benefit physically and psychologically from the outdoor environment and see it as a source of nourishment, shelter, security and restoration.[59]
- Green spaces and nature settings can act as restorative spaces as they have been associated with positive health outcomes.[60,61] Additionally, they meet essential criteria for restorative spaces by removing people from stressors, providing elements of interest and fascination, helping people feel more immersed in a space and creating a sense of compatibility between the space and its purpose.[62]

KEY HEALTH AND WELL-BEING EFFECTS

- Connections with nature, such as direct access to the outdoors, nature views through windows or exposure to natural elements indoors, all are associated with various health benefits spanning improvements in mood, stress and overall health status.[63,64]
- Exposure to indoor natural elements decreases physiological indicators of stress (e.g., lower heart rate, blood pressure and skin temperature), improves comfort and mood and increases pain tolerance, as seen in studies assessing simulated hospital patients and reactions to discomfort.[65-72]
- Exposure to natural elements in urban environments has been shown to positively affect cognitive functioning, specifically related to attention and working memory.[73-78] Additionally, exposure to nature can be restorative for people experiencing cognitive fatigue.[62,79,80]
- Artwork has been found to promote social interactions and facilitate connections between people, elicit positive emotional responses, foster learning and enhance the overall workplace environment.[81]
    - The presence of artwork – abstract or natural – in the workplace can provide relaxing and calming effects and help regulate mood throughout the workday.[72]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- Modifying indoor environments to include plants or windows with daylight access may reduce stress and confer other health and well-being benefits.[82,83]
    - Compared to employees who report lack of window access or other types of views, employees with window views of nature at work have reported lower stress levels, higher health status and higher job satisfaction.[64]
- In hospitals, nature views have been associated with supporting recovery from illness, assessed through measures such as shorter postoperative stays, decreased need for pain medication, lower rates of minor postsurgical complications and earlier discharge.[84,85]
- In workplaces, employees with more exposure to indoor nature (e.g., plants, nature views) may experience reduced levels of stress, fewer subjective health complaints, fewer sick days and enhanced feelings of being supported by their organization.[82,86]
- The restorative qualities of nature can be experienced through visual stimuli like plants or natural designs as well as sounds that mimic natural elements.[59,79,87,88] Indoor plants can improve mood, perceived environmental attractiveness and comfort.[71]
- Direct contact with nature may have the strongest positive impact on stress and general health compared to more indirect exposure (e.g., nature photography or sounds).[86] While direct contact with the outdoors is still the most powerful and effective solution, the use of indoor strategies (e.g., plants) can have a positive impact on well-being.[89,90]

- The inclusion of artwork and joyful décor in the workspace can encourage engagement between colleagues, as well as support stimulation in employees at times such as post-lunch, when productivity can decrease due to fatigue.[91]
- Artwork connected to an organization's mission, as well as rotating exhibitions and diverse collections, has been found to be of particular value among viewers in a workplace setting.[81]
- People tend to prefer artwork that has a moderate amount of visual complexity (as compared to art that is visually simple or highly complex), suggesting that it is not simply the presence of art that matters, but the aesthetic qualities as well.[92]

ADDITIONAL NOTES

- Some of the beneficial outcomes associated with nature may be explained by a person's sense of their connectedness to nature. People vary in the extent of their subjective connection to nature, and studies suggest that people who report feeling more connected tend to have more pro-environmental attitudes and behavioral similarities, such as greater engagement in outdoor activities.[93]
    - Some evidence suggests that women may have both a stronger preference for nature and experience stronger positive outcomes with exposure.[70,72]
    - A person's sense of nature connectedness appears to be positively correlated with psychological and social well-being, as well as happiness.[94,95]

FEATURE M03: MENTAL HEALTH SERVICES

OVERVIEW

Part 1: Offer confidential screening assessments for common mental health conditions that are either self- or clinically administered at no cost.
Part 2: Provide mental health benefits that offer coverage for clinical screenings and referrals, inpatient and outpatient services, and prescriptions at no or subsidized cost, as well as access to information and benefits consultations.
Part 3: Provide organizational support for mental health needs, including adjustments of physical environment and work schedule, availability of sick or paid time to address needs and increased interpersonal support from colleagues (e.g. managers).

SCIENTIFIC BACKGROUND

- The World Health Organization (WHO) defines mental health as "a state of well-being in which every individual realizes [their] own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to [their] community."[1]
    - Mental health conditions include a number of symptoms related to mental health that may or may not result in a diagnosis.[1]
- Overall, mental health conditions appear to be on the rise. The WHO reports that from 1990 to 2013, the number of people suffering from depression and/or anxiety increased from 416 million people to 615 million people, representing a nearly 50% increase in affected persons.[96]
- Despite this widespread prevalence, many people delay treatment for mental health, and nearly two thirds of people who need help never receive it (with some estimates as high as 70%).[97-99] This gap in care is greater in low- and middle-income countries. However, even in high-income countries, up to half the people who need treatment for mental health conditions do not receive it.[100]
- According to data from 24 countries around the world, the main barriers to seeking mental health support include low perceived need and attitudes concerning mental health, suggesting a critical need to improve mental health awareness and education.[101]
    - Stigma plays a strong role in this issue. One study in the United States found that the majority of the general public reported being unwilling to work with people with a mental health condition, with 47% of people reporting unwillingness to work with someone with depression and 74% of people in the case of an individual with alcohol dependence.[102]

KEY HEALTH AND WELL-BEING EFFECTS

- Properly managing and reducing sources of chronic or sustained stress can help minimize an individual's risk of several mental health conditions, chronic and infectious diseases and other health risks, such as depression, anxiety disorders, substance use disorders (SUDs), cardiovascular disease, diabetes, upper respiratory infection and adverse effects on the immune system that may increase vulnerability to disease overall.[103-110]
- Depression is the leading cause of disability worldwide.[19] Treating depression reduces a person's risk of suicide, as well as other chronic diseases such as cardiovascular disease, cerebrovascular disease and diabetes.[18-24]
- Providing treatment and support to alleviate anxiety can help reduce the global burden of disease across the world, which accounted 27.1 million disability-adjusted life years (DALYs) in 2017.[29,111]
    - To quantify the burden a disease puts on a population, researchers calculate DALYs, which represent one lost "healthy" year. DALYs are determined by summing the Years of Life Lost (YLL), which accounts for cases where people die prematurely due to disease, with the Years Lost due to Disability (YLD), which accounts for cases where people live with a condition or its consequences.[32]
- There is a need to help those with SUDs access treatment and support services. In 2016, only one in six people living with a SUD (which accounted for an estimated 167,750 deaths in 2015) received treatment for the condition.[26]
    - Many people with a SUD may not consider their use-related behaviors to be adversely impacting their health. In 2010, 85% of people in the United States with an SUD did not consider themselves in need of treatment.[112]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- Employers can help play a critical role in reducing the stigma around seeking help for mental health needs: Several studies suggest that employees may underutilize available healthcare services because of fear of stigma at work.[38,113-116]
    - In the United Kingdom, organizations lose an estimated £26 billion a year (approximately £1,035 per capita) due to mental health-related absenteeism, presenteeism and employee turnover.[117]
- By properly managing mental health conditions and helping people identify and treat problems, employers can avoid incurring several business costs, such as absenteeism, accidents, disability payments, medication costs and recruitment costs due to turnover.[118]
    - In the United States, a study found that approximately 18% of employees had a mental health condition that had a negative impact on their work performance within the previous month.[119]
    - In Germany, a study estimated that there was a 5.9% loss in workdays attributable to mental health problems.[120]
- The establishment of workplace programming that addresses mental health, especially programming that improves mental health literacy through education or trainings, has been shown to be an effective way to promote better service utilization and improve attitudes about mental health.[37-39]
- Studies indicate that a person's risk of persistent depression may be reduced by up to 13% through screening, using either self- or physician-led assessments in primary care settings.[53,121-129]
- Allowing adjustments to aspects of a person's physical environment in the workplace can have positive effects on mental health. Environmental variables such as light exposure, aesthetic environment, access to nature and the ability to regulate privacy have been shown to affect mood, stress and productivity.[130]

ADDITIONAL NOTES

- The likelihood of certain mental health conditions differs across gender. Studies report that depression, anxiety and some phobias are more common in women, and antisocial personality disorder and substance abuse are more common in men.[29,48-51]
- There are also age-based differences. Studies show that the age of onset of disease for mood, anxiety and substance use disorders typically emerges in childhood, early adolescence or early adulthood, prior to 25 years of age.[52,53] Older adult populations (55 years of age and older) have an increased risk of developing anxiety, mood disorders and cognitive impairment and are at greater risk to die by suicide as compared to other age groups.[54]

FEATURE M04: MENTAL HEALTH EDUCATION

OVERVIEW

Part 1: Trainings on common mental health conditions and concerns, signs and symptoms of potential distress and strategies for supporting personal mental health are provided at least twice a year.
Part 2: Managers are required to attend an annual training that focuses on identifying and reducing sources of workplace stress, improved understanding of common mental health conditions and strategies to support employees experiencing mental health concerns or crises.

SCIENTIFIC BACKGROUND

- One in four people are affected by a mental health condition, such as anxiety, depression or a substance use disorder (SUD), at some point in life.[99] In 2016 alone, more than one billion people in the world suffered from a mental health condition.[4,131]
    - Approximately 45% of Australians suffer from a mental health condition at some point in their lives.[132]
- Depression is the leading cause of disability globally, affecting more than 300 million people worldwide, and often is experienced comorbidly with anxiety.[133]
- It is estimated that, globally, up to 70% of people with a mental health condition do not receive treatment.[97]
- Stress can be understood as anything that seriously threatens the ability to maintain biological equilibrium, whether that threat is actual or perceived.[134] When an individual is stressed, their body responds by triggering a number of internal physiological changes to address the external threat or demand.[135]
    - The human body is typically in a state of homeostasis or equilibrium.[136] When stressed, the human body responds with allostasis, which refers to the need for an organism to alter its internal state to meet environmental demands.[137]

KEY HEALTH AND WELL-BEING EFFECTS

- Stress is associated with depression, anxiety disorders, substance use disorders, cardiovascular disease, diabetes, upper respiratory infection and adverse effects on the immune system that can increase overall vulnerability to illness.[104,108-110,138,139]
- Identifying, managing and mitigating sources of stress can minimize a person's risk of developing or exacerbating several health conditions such as stroke, diabetes or heart disease.[107,135,138,139]
- In addition to mental health conditions, job-related stress is particularly associated with cardiovascular disease. Individuals who report job strain (i.e., psychosocial stress), effort-reward imbalance or perceptions of organizational injustice have a higher probability of experiencing non-fatal and fatal cardiovascular events.[140-144]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- In the workplace, leadership and managers play a critical role in employee mental health. The attitudes of people in leadership roles about mental health can define and shape social norms in an organization.[145] A model evaluating the impact of several working conditions found managers' attitudes toward employees to be the single most important factor influencing employee mental health.[146]
    - Overall, good leadership and appropriate managerial styles are critical factors to a positive working environment.[147]
- Studies suggest that fear of stigmatization at work may lead to employees underutilizing mental health services.[38,113-116] This creates an environment where mental health conditions are discussed directly, and employees are made aware of available resources and assistance may alleviate stigmas associated with mental health.
    - Workplace anti-stigma interventions have been successful in eliciting change in general knowledge on signs and symptoms of a mental health condition and presence of supportive behavior of colleagues among employees.[38] While attitudes towards colleagues with a condition had mixed findings, belief changes were generally positive, supporting further utilization of anti-stigma efforts.[38]
- Mental health education can help individuals recognize signs of illness and empower them to act when necessary.[38]
    - Educational materials need to be accurate, accessible, actionable and promote a solution-oriented message.[148]
- Workplace wellness programming centered around mental health can increase healthcare service utilization and improve attitudes about mental health.[37-39]

- By properly addressing mental health conditions and helping people identify and treat problems, employers can avoid incurring several business costs, such as absenteeism, accidents, disability payments, medication costs and recruitment costs due to employee turnover.[118]

ADDITIONAL NOTES

- There are gender differences in the rates of common mental health problems. Women tend to experience higher rates of what are sometimes referred to as "internalizing disorders," such as depression (about twice as prevalent in women compared to men) and anxiety, and men tend to experience higher rates of what are sometimes referred to as "externalizing disorders" such as substance abuse and antisocial disorders.[146,149]

FEATURE M05: STRESS MANAGEMENT

OVERVIEW

Part 1: Develop a plan to address employee stress through tracking indicators of stress in employees, such as rates of unused paid time off and employee retention, identify opportunities to reduce employee stress and outline an implementation plan.

SCIENTIFIC BACKGROUND

- Stress can be understood as anything that seriously threatens our ability to maintain biological equilibrium, whether that threat is actual or perceived.[150] When humans experience stress, the body responds by triggering a number of internal physiological changes to deal with the external threat or demand.[106]
    - Our bodies are typically in a state of homeostasis, or internal stability or equilibrium, across body systems and processes, achieved by organisms for proper biological functioning.[151] With stress, our bodies respond with allostasis, which means 'stability through change' and refers to the need for an organism to alter its internal state to meet environmental demands.[152]
    - The brain plays a central role in mediating stress as it determines whether we perceive stimuli to be threatening or not and orchestrates behavioral and physiological responses in the body.[106,153]
- Stress is an essential component of human functioning, as it is critical for initiating biological processes that give us the energy to meet external demands. These processes include increasing blood pressure and heart rate through the release of the hormone adrenaline, as well as the release of organic compounds such as glucose, amino acids and fatty acids to use as sources of energy.[152]
- In times of stress the body requires excess energy to deal with the stressor, and our bodies suppress other internal processes that use up energy, including suppression of some elements of the immune system, as well as reduced wound healing and bone growth/repair.[152]
- Prolonged or chronic exposure to stress can result in adverse health impacts on both physical and mental health.[154,155]

KEY HEALTH AND WELL-BEING EFFECTS

- Stress is strongly associated with negative effects on the cardiovascular system, and some studies suggest that job stress in particular may be a predictor for coronary heart disease and high blood pressure.[14-16,156]
    - In a meta-analysis, work-related stress was associated with a 50% increased risk for coronary heart disease, highlighting the need for a systematic intervention point to address this risk factor.[157] Stressors included high job demands and low control, high effort and low reward and organizational injustice.[157]
- Managing stress and keeping self-perceived stress levels low may result in a protective effect against illnesses such as the common cold.[12,13]
- Stressful life events, such as job or marital stress or the loss of a loved one, can occur at any time and affect any person and often precede the onset of depression and anxiety.[150,158-160] Proactively addressing stress can help prevent the development of the adverse physical and mental health conditions associated with long-term exposure to stress.[150,158-160]
- Managing stress also may help reduce muscular tension, which can contribute to the development of musculoskeletal disorders.[161] In the workplace, back pain is a particularly common complaint associated with stress.[162,163]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- While stressful life events span beyond the workplace, studies indicate that targeting the reduction of job-related stressors may positively influence mental and physical health.[144,164]
    - It's estimated that up to 40% of workers in the European Union and the United States experience work stress, which has been on the rise since the 1990s.[144].
    - Implementing stress management programs for employees with high blood pressure may improve employee blood pressure rates, have a positive impact on workplace satisfaction and reduce levels of reported stress and depression.[165]
- Common job stressors that employers have the potential to address include low social support (from peers and managers), job insecurity and job strain, which is a combination of high demands in terms of workload or timelines coupled with low control in terms of the content and execution of the work or the skills needed to do the work.[144,166-169] Further, the risk of mood and anxiety disorders may be abated by reducing work-related stress, and in particular by helping employees achieve better balance between work and personal lives.[170]

- Poor health-related outcomes, such as chronic fatigue and stress-related absenteeism may be improved by cognitive behavioral therapy (CBT), a style of psychological treatment aimed at addressing unhelpful thinking and behavior patterns and the development of productive coping strategies.[171,172] CBT may be especially helpful in addressing work stressors such as low control and social support and high over-commitment and imbalance, though some of these elements also may need to be addressed at an organizational level.[173]
- On the individual level, studies suggest that interventions that focus on CBT may be most effective at reducing stress, but relaxation or other mind-body techniques, meditation and organizational-level interventions also can also have an impact.[174-177] Employers should consider a multi-pronged approach in reducing workplace stress and associated symptoms of depression and anxiety.[174,178]

ADDITIONAL NOTES

- A strong body of evidence has established that individuals who experience adverse childhood experiences (e.g., exposure to violence, whether experienced first-hand or observed in the home, abuse, economic hardship, or parental separation, divorce or marital conflict) are much more likely to suffer from negative outcomes later in life, both physical and mental and including premature death.[153,179,180]
    - Exposure, especially during childhood, to conditions of poverty, discrimination, violence and war is associated with chronic stress and various adverse mental health outcomes.[153,181-187]
- People experience different levels of exposure to stressful events and experiences along gendered, racial-ethnic and socioeconomic lines, exacerbating health disparities and suggesting that certain groups may be in greater need for targeted stress reduction efforts.[188-190]

FEATURE M06: RESTORATIVE OPPORTUNITIES

OVERVIEW

Part 1: Provide opportunities for all employees to take breaks from work throughout the day (i.e., 24-hour period) and week (i.e., seven-day period), paid time off for all eligible employees and adjusted start times for secondary school students.
Part 2: Provide workplace support for all eligible employees to engage in a nap or rest break during the workday and access to a designated zone with furniture to facilitate rest.

SCIENTIFIC BACKGROUND

- Regulations on working hours were established over a century ago, resulting in the common practice of 8-hour workdays and up to 48-hour workweeks. However, today's average employee works 55 hours or more per week, with China, Mexico, Costa Rica and South Korea leading the trend of returning to longer hours, followed by the United States and Europe.[191,192]
- Work-life balance refers to a harmonious interplay between work and personal life.[193] Some view the concept of work and personal life as independent domains, whereas others prefer a more integrated approach.[194,195] Further distinctions arise in perspectives on the meaning of "balance." Some believe that time should be split equally between the two domains, while others highlight that this may not be the goal for all individuals.[196]
- Sleep occurs in four stages. The first three stages of sleep are characterized by the initial transition from wakefulness to sleep and a progressive slowing of heartbeat, breathing, brain waves and eye movement, as well as muscle relaxation and a decrease in body temperature.[197] The last stage of sleep is rapid eye movement (REM) sleep, in which brain wave activity is similar to that of waking states, breathing quickens and becomes irregular, heart rate and blood pressure increase, muscles paralyze and the majority of dreaming occurs.[197]
    - Typically, infants sleep as much as 18 hours a day, children and adolescents require about 9.5 hours of sleep a day; most adults need between seven to nine hours a day; and adults over the age of 60 tend to sleep for shorter periods of time, more lightly and with multiple awakenings throughout the night.[197]

KEY HEALTH AND WELL-BEING EFFECTS

- Working excessive hours, without breaks nor sufficient recovery periods during evenings and weekends, can increase a person's stress.[198,199] Stress is associated with poor work-life balance, job burnout and elevated risk for hypertension, cardiovascular disease, stroke, diabetes, obesity, anxiety and depression.[191,200-225]
- Working long hours without sufficient quality rest, nor psychological detachment via the ability to engage in meaningful endeavors unrelated to work, is unsustainable over time.[226] The negative effects can manifest in cumulative stress, which often encourages unhealthy behavior choices, including irregular sleep, smoking, overeating, drug/alcohol dependency and a sedentary lifestyle, which subsequently are linked to increased risk of chronic disease.[191,227-238]
- Sleep duration is a key risk factor. Too little and too much sleep are both associated with increased risk of mortality, cardiovascular disease and type II diabetes.[239-243]
    - A seminal, longitudinal study with more than 10,000 participants in London found that a decrease in self-reported sleep duration from those who had previously reported sleeping six, seven or eight hours a night was associated with a twice greater risk of death by cardiovascular disease.[244] The study also found that an increase in self-reported sleep duration from those who had previously reported sleeping seven or eight hours a night to be associated with a twice greater risk of death by non-cardiovascular related causes.[244]
    - Data pooled across nearly 500,000 study participants indicated that a sleep duration of seven to eight hours per day is associated with the lowest risk of diabetes.[245] Another study found that those who slept less than six hours a night were twice as likely to develop type II diabetes, while people who reported more than eight hours a night were three times as likely to develop type II diabetes.[246]
- Shorter sleep duration also is associated with compromised immune function, which increases susceptibility to illnesses such as the common cold.[247-249]
    - A study of 153 heathy adults showed that those who averaged less than seven hours of sleep a night were about three times more likely to experience cold symptoms than those who averaged eight hours or more of sleep per night.[247]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- Taking short breaks ("micro-breaks") throughout the workday can help employees recover from work-stress and maintain good cognitive function, focus, mood and creativity, all of which decline when nutrition intake, social connection and exercise are deprioritized or ignored for short-term productivity.[238,250-254]
- Disconnecting from work for longer periods of time ("macro-breaks"), during evenings, weekends and taking regular vacations, allows employees to recover from fatigue and can help people experience improvements in mood and energy level, as well as overarching health status.[255-257]
    - The effects of time away from work may be short-lived.[256] One study suggests that within the first week of resumption of work, health and well-being returned to pre-vacation levels, suggesting the need to regularly take time away from work.[258]
- Working consistent hours benefits sleep. Research shows employees who are given control over and are able to keep regular working hours, fall asleep more easily, sleep longer and benefit from more restful sleep, versus employees who are granted little control over their schedule and/or work lengthy hours.[215,259,260]
- Organizational culture has a strong impact on adopted behaviors and norms, with leadership being a primary driver of organizational culture. Leaders, particularly founders, define the core values of an organization and its culture, demonstrating rules for acceptable and expected conduct.[261,262] Further, mid-level management and supervisors act as the link between leadership and employees, and several studies indicate that managerial support is often key in creating environments were employees feel encouraged to take actions to safeguard their health and wellness.[263]
    - Workplace policies that limit work hours, actively encourage micro-breaks and support regular vacations can help employees protect themselves from overwork and its associated stressors.[260]
- Studies on strategies for reducing fatigue and insomnia in shift workers provide support for physical activity, bright light exposure, napping and education on sleep hygiene.[264] Naps of 20 to 30 minutes have been shown to be helpful in improving shiftwork employees' performance in measures of alertness, vigilance, reaction time and decreased risk of accidents.[265-268]
- In 2014, the American Academy of Pediatrics released a policy statement recommending secondary schools delay the start of classes until 8:30 a.m. or later based on research on biological sleep rhythms that indicate that puberty shifts sleep-wake cycles up to two hours later in the day, affecting natural and healthy wake-times for adolescents.[269]

ADDITIONAL NOTES

- Several studies have established a relationship between sleep disturbances and mental health outcomes, specifically depression and anxiety.[270-273] Studies suggest that each may be a consequence of and/or contribute to the development of another.[274] But it remains unclear if one is definitively a risk factor for another or vice versa, and the health consequences associated with poor sleep should be weighed considering the potential additional or fully attributable contribution to depression and/or anxiety.

FEATURE M07: RESTORATIVE SPACES

OVERVIEW

Part 1: Provide an indoor or outdoor space available to all regular building occupants that is designated exclusively and specifically to support breaks from work and designed to support relaxation and restoration.

SCIENTIFIC BACKGROUND

- Restoration refers to the renewal, recovery or reestablishment of psychological, social or physical resources.[275,276] People deplete resources or capacities as a function of handling stress in everyday life (i.e., adaptively meeting demands) and environments either can facilitate the introduction of stress or relief from it.[275,277]
- Stress can be understood as anything that seriously threatens our ability to maintain biological equilibrium, whether that threat is actual or perceived.[150] When humans experience stress, the body responds by triggering a number of internal physiological changes to deal with the external threat or demand.[106]
- Stress is an essential component of human functioning, as it is critical for initiating biological processes that give us to the energy to meet external demands. However, these energy reserves must be rebuilt through mechanisms that range from providing the body with nourishment to taking time for relaxation and restoration.[152,275]
- Psychological stress is commonly associated with workplace demands, impacting both mental and physical wellbeing and contributing to risk of disease onset.[138]

KEY HEALTH AND WELL-BEING EFFECTS

- Identifying, managing and mitigating sources of stress can help to minimize a person's risk of developing or exacerbating several diseases and health risks.[135,138,139,278,279]
- Work that does not allow for sufficient recovery time can increase a person's level of stress.[198,199]
- Stress is strongly associated with negative effects on the cardiovascular system, and some studies suggest that job stress in particular may be a predictor for coronary heart disease and high blood pressure.[14-16,156]
- Managing stress also may help reduce muscular tension, which can contribute to the development of musculoskeletal disorders.[161] In the workplace, back pain is a particularly common complaint associated with stress.[162,163]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- On the individual level, studies suggest that interventions that focus on cognitive-behavioral therapy, a style of psychological treatment aimed at addressing unhelpful thinking and behavior patterns and the development of productive coping strategies, may be the most effective at reducing stress, but relaxation or other mind-body techniques, meditation and organizational-level interventions can also have an impact.[171,174-177] Employers should consider a multi-pronged approach in reducing workplace stress and associated symptoms of depression and anxiety.[174,178]
- Restorative environments should permit and actively promote restoration, meaning that the design of the space must match its intended use.[276] Restorative spaces should be designed so that social or physical demands are absent (e.g., noise, reminders of work obligations), and further introduce other elements that facilitate greater mental ease and rehabilitation.[276]
    - In urban spaces, this includes spaces that focus on limiting crowding and noise.[276]
- In line with the notion of actively promoting restoration, directed attention restoration is a proposed theory that suggests that restorative environments should softly fascinate (i.e., include elements that encourage effortless attention, such as natural environments), provide psychological distance from stressors, be sufficiently large to support exploration and be designed compatibly with their intended purpose.[80,280]
- Psychophysiological stress recovery theory posits that natural environments -- which often are made up of visual stimuli of moderate depth and complexity and are perceived as pleasant and calm -- can yield a positive, restorative effect.[281,282]
- Both theories suggest that natural environments are best suited to serve as restorative spaces, and providing people with access to natural environments or spaces that integrate natural elements has been demonstrated in studies as a way to promote restoration (especially in terms of attention tasks).[62,280,283-285] Research indicates that direct experiences in nature (e.g., woods, gardens, parks) may be best able to promote restoration. However, some evidence suggests that contact with representations of nature in urban environments may also be sufficient.[58,286,287]

    - Even in the case of gardens, there may be variances in restorative abilities based on garden design. For example, one study found that more “natural,” informal gardens were perceived to be more restorative than more formal, geometrically designed gardens.[288]
- Natural elements indeed represent the most widely studied restorative environment, but restoration is not necessarily restricted to such spaces. For example, studies demonstrate that urban or built environments like coffee shops can be restorative for some people.[289,290] Additionally, there are non-environmental factors to consider, such as social context (e.g., presence of a companion) which can also hinder or facilitate restoration.[289,290]

FEATURE M08: RESTORATIVE PROGRAMMING

OVERVIEW

Part 1: Provide mindfulness-based programming at no cost or subsidized by 50% that includes a combination of training courses offered at least twice a year, programming offered at least once a week, or on-going digital offerings (e.g., guided meditation application), as well as a quiet space for mindfulness practice.

SCIENTIFIC BACKGROUND

- The foundations of mindfulness meditation originate from the Pāli Canon of Theravada Buddhism, the earliest scriptures of what generally is accepted as the oldest school of Buddhism. Mindfulness was a term coined in the early 20th century as an approximate translation of the Pāli word, sati, the first factor in the Seven Factors of Enlightenment in Buddhism, referring to notions of awareness and memory of the present.
- Mindfulness-based practices since have become popular for secular applications outside of Buddhism, particularly for health and wellness benefits. This trend began with Mindfulness-Based Stress Reduction (MBSR), initially developed in 1979 as a clinical program to help patients adapt to medical illnesses, and specifically to aid in the treatment and management of chronic pain, which has been widely applied and adapted for other people in varying contexts.[291-294]
- Mindfulness refers to awareness emerging from purposeful, nonjudgmental attention to the experiences of one moment to the next.[295]
    - People often have difficulty being alone with just their thoughts.[296] One study found that participants typically did not enjoy spending six to fifteen minutes alone without external stimulation, and instead preferred to engage in mundane activities or self-administer negative stimulation (e.g., mild electric shock).[296]

KEY HEALTH AND WELL-BEING EFFECTS

- Identifying, managing and mitigating sources of stress can help to minimize a person's risk of developing or exacerbating several diseases and health risks, as it is known that prolonged or chronic exposure to stress in particular may be especially harmful to health.[135,138,139,278,279]
- Depression is one of the leading causes of disability worldwide, and by addressing factors that contribute to depression, a person's risk of suicide as well as of chronic diseases such as cardiovascular disease, cerebrovascular disease (e.g., stroke, aneurysm) and diabetes can be minimized.[18,19,23,24,297-299]
- Providing treatment and support to alleviate anxiety can help reduce the burden of disease on the general population, which accounted for 27.1 million disability-adjusted life years (DALYs) globally, in 2017.[29,111]
    - To quantify the burden a disease puts on a population, researchers calculate disability-adjusted life years (DALYs), which represents one lost "healthy" year. DALYs are determined by summing the Years of Life Lost (YLL), which accounts for cases where people die prematurely due to disease, with the Years Lost due to Disability (YLD), which accounts for cases where people live with a condition or its consequences.[32]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- Mindfulness-based intervention (MBI) therapies have been shown to promote improvements across various measures of health and well-being, including improvements related to substance use disorders, anxiety disorders and depression.[300-305]
- MBSR is one of the best-known and most commonly followed secular MBIs and has been shown to be effective in helping both patients and healthy people manage stress and cope with clinical and nonclinical problems.[306-308] MBSR is an 8-week, clinically-standardized treatment program that includes weekly 2-2.5 hour group sessions with a trained teacher, daily audio-guided meditations at home and a full-day meditation retreat.[300]
    - Course content in MBSR focuses on mindful attention to body sensations using mind-body meditative practices such as yoga or gentle stretching, and also addresses how to apply mindful practices in everyday life and how to more adaptively handle stressors.
- Other MBIs that follow a similar programmatic structure as MBSR have also demonstrated success in achieving other outcomes, such as Mindfulness-Based Cognitive Therapy (MBCT), which has been shown effective in improving several mental-health related outcomes, including preventing relapse among people with major depression.[307,309,310]
- There is less research on the effectiveness of intensive mindfulness meditation training (e.g., full- or multi-day retreats) compared to comprehensive treatment programs such as MBSR or MBCT, but available research indicates

that this way of delivering a MBI may be a cost-effective way to help people with anxiety, stress and other psychosocial measures of health and well-being.[300,311,312]

- Shorter-duration mindfulness meditation training also may be an option for improved well-being. Some programs have adapted standard 8-week programs into 2- to 3-week programs and have reported positive outcomes on compassion and working memory capacity.[313,314] Shorter still, in one study, a 3-day program with 25 minutes of mindfulness meditation training per day resulted in improvements in self-reported stress.[315]
- A review of 15 randomized controlled trials assessing the effects of internet- and mobile-based MBIs found small to moderate benefits on measures such as depression, anxiety, well-being and mindfulness, with the greatest effect seen on stress.[316] Another review of online MBIs focused on physical health parameters found that they can be particularly helpful if tailored to address specific symptoms, and overall may be helpful for managing pain, fatigue, coping and social engagement.[317]
    - Online-based interventions typically are not as effective as interventions that involve in-person components. However, online-based interventions are more effective in maintaining engagement when coupled with therapist or teacher guidance.[316]
- In the workplace, MBSR has been shown to result in decreased levels of burnout, general stress, job-specific stress, emotional exhaustion, depression and anxiety, and an increased sense of mindfulness, personal accomplishment, self-compassion, relaxation and sleep quality.[318,319]
- Studies show that mindfulness-based movement such as Tai Chi, Qigong, Baduanjin and yoga may be able to help with both mental and physical health. Mindfulness-based movement may help improve the severity of depression and anxiety, as well as support chronic musculoskeletal pain management.[320] However, they should be implemented with qualified instructors to ensure proper movements and to prevent injuries.[321,322]

ADDITIONAL NOTES

- The largest base of evidence on MBIs in workplaces is based on healthcare workers.[323]
    - More research is needed on other types of employees and occupational settings to understand if these findings are generalizable.
    - Research on the topic of MBIs in non-clinical settings is emerging. While it is promising, more research is needed to assess the extent to which MBIs beyond MBSR are effective in improving mindfulness and achieving other desired health and well-being outcomes.

FEATURE M09: ENHANCED ACCESS TO NATURE

OVERVIEW

Part 1: Facilitate increased contact with nature through access to indoor plants, water features and/or nature views.
Part 2: Facilitate increased contact with nature through some combination of nature access in outdoor areas within the project site and nearby off-site nature spaces, as well as organizational support to access outdoor nature.

SCIENTIFIC BACKGROUND

- Over half of the world's population currently lives in urban environments, an amount that is expected to increase to two-thirds by 2050.[56] The global trend toward urbanization, along with a change in lifestyle that causes depletion of natural resources, coincides with this shift and further removes humans from the natural environment.[57,58]
- To fully appreciate the benefits of contact with nature, people require repeated experiences of exposure to nature.[324,325]
- Green spaces and nature settings have been associated with numerous positive health outcomes.[60,61]
    - These environments meet essential criteria as restorative spaces by removing people from stressors, providing elements of interest and soft fascination, helping people feel more immersed in a space and creating a sense of compatibility between the space and its purpose.[62]

KEY HEALTH AND WELL-BEING EFFECTS

- Contact with nature can promote health through a variety of mechanisms, including increased physical activity, stress reduction and social integration.[62]
    - Immersion in nature may promote a sense of social community, or social belonging, particularly on a community- or neighborhood-level.[326] In one study, residents in public housing buildings with a greater presence of trees and grass showed increased use of common spaces and interactions with other residents.[327]
- Natural environments can have a positive impact on health by increasing positive moods, reducing psychophysiological arousal (i.e., physical reaction of body systems related to an individual's emotions and/or stress), cognitive fatigue, and stress and improving the ability to perform tasks that require concentration.[61,283,326-330]
- Green space exposure in urban environments is associated with reduced likelihood of mortality overall.[285,331-335] Studies reporting this association typically focused on specific sub-populations, meaning generalizability of these findings to the population at-large is not yet confirmed.[336]
- Exposure to nature can help people mentally recover from both stress and mental fatigue and may reduce blood pressure.[79,80,337,338] A study that compared natural and urban settings found that natural settings lowered diastolic blood pressure, increased positive affect, decreased anger and improved performance on an attention test designed to assess if exposure to nature increased ability to focus.[337]
    - One study estimates that visiting an outdoor green space for at least 30 minutes a week could reduce the population prevalence of depression by up to 7% and reduce high blood pressure by up to 9%.[339]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- Nature-oriented design strategies include providing physical access to natural elements, visual connection with the outdoors, the presence of artwork that incorporates nature into the indoor environment and sounds or smells that are associated with natural settings.[63,64]
- Connections with nature, such as direct access to the outdoors and nature views through windows or exposure to natural elements indoors all are associated with various health benefits, spanning improvements in mood, stress and overall health status.[63,64]
- Compared to employees who report a lack of window access or have other types of views, employees with window views of nature at work experience lower stress levels, higher health status and higher job satisfaction.[64] In hospitals, nature views have been associated with supporting recovery from illness, assessed through measures such as shorter postoperative stays, decreased need for pain medication and lower rates of minor postsurgical complications.[84,85]
- Various types of natural environments have been shown to confer health benefits, including contact with natural spaces in urban environments like gardens, parks and natural features around residences.[90,285,331-335,340]
- Greater proximity and access to blue spaces (e.g., rivers, oceans, lakes) is associated with both improved mental health and well-being, as well as increased physical activity.[341,342]

- The evidence base for the health benefits of green spaces is more robust and comprehensive than evidence for that of blue spaces, speaking to a need for further research on blue spaces to better understand how these spaces may promote health.[343,344]

ADDITIONAL NOTES

- Some of the beneficial outcomes associated with nature may be explained by a person's sense of their connectedness to nature. People vary in the extent of their subjective connection to nature, and studies suggest that people who report feeling more connected tend to have more pro-environmental attitudes and behavioral similarities, such as greater engagement in outdoor activities/time spent outdoors.[93]
  - Some evidence suggests that women may have both a stronger preference for nature and experience stronger positive outcomes with exposure.[70,72]
  - A person's sense of nature connectedness appears to be positively correlated with psychological and social well-being, as well as happiness.[94,95]

FEATURE M10: TOBACCO CESSATION

OVERVIEW

Part 1: Make available incentive programs and resources to aid in quitting tobacco use, such as referrals to tobacco cessation telephone quit lines, counseling, medication and nicotine replacement products.
Part 2: Ban the sale of tobacco products on the project property and educate employees on the health consequences of using such products.

SCIENTIFIC BACKGROUND

- There are many types of tobacco products, but the most popular form of nicotine use globally is through smoking cigarettes.[345]
    - Cigarettes contain and produce though combustion (i.e., burning) several thousand harmful chemicals. Nicotine is of particular interest because of its psychoactive properties (i.e., affecting the brain) – it is powerfully addictive and induces behavioral changes such as increased attention, anxiety reduction and appetite suppression.[345-348] This psychoactive effect also explains some of the withdrawal symptoms associated with quitting tobacco, which include irritability, depressed mood, decreased heart rate and increased appetite.[345-348]
- Globally, tobacco use is responsible for killing half of its 1.1 billion users, including more than seven million people a year.[349] If trends continue, by 2030, tobacco use will cause an estimated 10 million deaths every year — a preventable death every three seconds that would eclipse deaths by any other cause.[350]
- To truly help people with tobacco cessation (i.e., quitting tobacco), it is important to not only consider individual behaviors but also to address the environment that makes smoking and other tobacco-related behaviors possible, including strategies such as changing social norms around smoking.[351] Similarly, it is important to address both the physical element of addiction (i.e., the way it affects and changes neurochemistry) as well as the social or behavioral elements of addiction (i.e., cravings and drug-seeking behaviors that have become learned and make up habits).[351]
    - The success behind trends seen in the United States, wherein the number of smokers dropped from 47% in 1965 to 22% in 1999, is attributed to a shift in strategy away from focusing only on individual-based reasons for smoking to include a consideration of the environment as a medium that either can support or deter smoking behavior.[351]

KEY HEALTH AND WELL-BEING EFFECTS

- There is no safe level of exposure to tobacco smoke, yet an estimated 1.1 billion people smoke tobacco worldwide. Smoking kills more than seven million people annually.[352,353]
- Smoking harms nearly every organ in the body and causes several cancers (e.g., lung, liver, colorectal, prostate, breast), respiratory diseases (e.g., chronic obstructive pulmonary disease, tuberculosis, bronchitis), cardiovascular problems (e.g., stroke, angina, heart attacks) and other adverse health outcomes, such as diabetes, rheumatoid arthritis and a compromised immune system.[354-356]
- Eliminating the presence of secondhand smoke can prevent “involuntary smoking” and the onset of several adverse health effects accounting for more than 890,000 premature deaths per year.[353]
- Removing opportunities for thirdhand smoke to persist in the environment protects people from further exposure to nicotine and a number of other harmful contaminants, including potential carcinogens that form as a function of chemical interactions between thirdhand smoke and other air contaminants.[357-359]
- Most secondhand smoke exposure occurs in homes and offices, making these environments particularly important for intervention for children and nonsmokers. Children are an important group to consider in tobacco prevention campaigns overall, and in particular they are uniquely susceptible to both secondhand and thirdhand smoke exposure as data in homes demonstrate particularly well.[360-363]
    - A 2011 study demonstrated that thirdhand smoke persists in homes months after smokers vacate the residence, even if the homes are cleaned, re-carpeted and painted.[364]
- Health risks specific to the use of e-cigarettes, as well as the actual effectiveness of e-cigarettes in aiding tobacco cessation efforts, are actively being researched. Some studies suggest that e-cigarettes are indeed useful tobacco replacement products, while others note that the liquids used (especially flavorings) may lead to adverse health outcomes.[365-368] Notably, the presence and use of e-cigarettes may re-normalize smoking and represent a new avenue for engaging people who otherwise would remain nonsmokers.[369,370]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- Several studies have demonstrated that the workplace is a critical and effective setting for supporting tobacco cessation efforts around the world. However, some studies report that while these interventions are effective initially, people may need further help to maintain their quitting effort.[371-377]
    - The workplace has played an important role in shifting norms and supporting a drop in the prevalence of smoking. Between 1991 and 2015, the percentage of people who reported working in a smoke-free workplace in the United States rose from about 45% to about 80%.[378] In the early 1990s, the tobacco industry itself noted in internal documents the effectiveness of workplace restrictions on reducing rates of smoking: "Smokers facing these restrictions consume 11%-15% less than average and quit at a rate that is 84% higher than average."[379]
- Workplace interventions that include facilitating group or individual counseling for people attempting to quit smoking have been found to be effective in increasing the likelihood of tobacco cessation.[380]
- Quit lines (i.e., telephone lines available to support people attempting to quit) are an inexpensive and cost-effective way to support tobacco cessation efforts. They provide a way for people to access counseling services without a great cost barrier or any added inconvenience. As an intervention strategy, quit lines represent an opportunity to reach a wide audience, including communities that may otherwise have difficulty accessing mainstream services. For example, reports from the United Kingdom and Sweden suggest that these services are particularly helpful for reaching racial/ethnic minority groups that may experience barriers to cessation resources.[351,381,382]
- Nicotine replacement therapy provides a source of nicotine for addicted individuals while supporting the reduction or elimination of exposure to tobacco and all of the other harmful chemicals contained in cigarettes.[383] This type of intervention has been found to increase a smoker's chances of quitting by 58% compared to placebo or other types of interventions.[383]
    - While nicotine is a prominent force in driving cravings for tobacco, it is not the singular source of cravings. The smell of smoke, tobacco advertisements or other cues that people have been conditioned to associate with tobacco can trigger cravings and may act alongside nicotine to enhance the potency of cravings.[345]

ADDITIONAL NOTES

- According to the Global Adults Tobacco Survey, from the countries surveyed, the largest number of tobacco users are found in China (291 million) followed by India (275 million), while prevalence is greatest in Bangladesh (43% of the population).[384]
- The prevalence of use is much higher in men than women in every country. This discrepancy is the most extreme in some Asian countries, such as China, where the male-to-female ratio for tobacco use is 27:1 and in Egypt, where the male-to-female tobacco use ratio is 38:1.[384]
- The quit ratio is less than 20% in the following countries: Bangladesh, China, Egypt, Indonesia, Malaysia and the Russian Federation.[384]
    - Some of the countries with the highest use of tobacco also show low rates in the desire to quit among smokers: In China, only a reported 23% of adults believe smoking causes serious illness and only a little more than 16% of smokers wanted to quit within the next year. Similarly, in India, only 26% of smokers wanted to quit smoking within the next year.[384]
- Worldwide, nicotine dependence tends to be higher in populations with mental health conditions and substance use disorders, compared to the general population.[385-390] This co-occurrence points to a critical need to intervene, since these communities are disproportionally affected by tobacco and related morbidities and mortalities.[385-390]
- In many places where tobacco reduction efforts have been successful, new disparities have been introduced. Rates of decline are seen mostly in socioeconomically advantaged populations, whereas groups of lower socioeconomic status (assessed via educational attainment, income and employment), as well as social or racial/ethnic minority groups, have not seen the same rates of reduction and at times may even be subject to more aggressive marketing and other persuasive efforts to encourage uptake and continued use.[391-394]

FEATURE M11: SUBSTANCE USE SERVICES

OVERVIEW

Part 1: Educate all regular building occupants on workplace policies regarding on-site alcohol and drug use and provide on-site, off-site or online trainings at least once per year to raise awareness regarding healthy and unhealthy substance use practices.

Part 2: Provide substance use and addiction services for all eligible employees at no or subsidized cost, as well as information on benefits coverage and confidential benefits consultations.

SCIENTIFIC BACKGROUND

- Substance use disorders (SUDs) are distinct from substance use. Substance use entails the occasional and controlled use of a drug, whereas a SUD is characterized by abuse, dependence or addiction, and often includes the inability to control or limit use, resulting in chronic, impulsive and/or compulsive substance use.[395]
    - A substance in this context is defined as any compound with psychoactive effects on the user that has the potential to cause health and/or social problems.
    - A psychiatric-motivational framework proposes that drug addiction reflects elements characteristic of both impulse control disorders (i.e., a rising tension to commit an act and gratification upon committing the act) and compulsive disorders (i.e., stress before committing a repetitive behavior and relief upon indulging in the behavior).[395]
    - While the focus of this feature centers on substance use, neuroimaging studies show that addiction spans several types of activities, including things such as eating, gambling and shopping.[396]
- Addiction is characterized by a relapsing, multi-step cycle of craving, intoxication, binging and withdrawal.[397]
- A heavily stigmatized disorder, addiction previously has been depicted as a reflection of an individual's lack of willpower or moral integrity. However, this characterization is scientifically inaccurate and ignores the complex interplay of behavior, environment, genetics and biology that drives the way addiction chemically works in the brain and shapes behavior.
    - A large body of research spanning the past several decades on the neuroscience of addiction reveals that it involves atypical or dysfunctional neurocircuitry — particularly as it relates to the limbic system and circuits in our brain associated with inhibition, reward and pleasure mechanisms, as well as the prefrontal cortex, which is involved in higher-order executive cognitive functions, such as decision-making, planning, self-control and awareness. Further, the use of certain substances alters and reinforces functional changes in the brain that make people increasingly susceptible to the effects of a drug and makes it more difficult to resist urges moving forward.[395-402]

KEY HEALTH AND WELL-BEING EFFECTS

- Across the globe, mental health and substance use disorders were directly responsible for an estimated 232,000 deaths or 8.6 million Years of Life Lost (YLL) in 2010. A vast majority of these cases of mortality potentially are preventable by addressing SUDs, which were the leading cause of deaths.[403]
    - YLL is a common metric that describes the total sum across a given population of the number of years of life that is lost due to premature mortality (i.e., death that occurs earlier than would be expected of a healthy individual) because of some disease or disability.[404]
- The specific health consequences of a SUD differs by substance and severity of the SUD and may include depression, poisoning or overdose, injury, abuse of other substances, and chronic disease, such as certain cancers or cardiovascular disease, among others.[405]
- The International Agency for Research on Cancer classifies alcohol as a known carcinogen, which has been demonstrated to cause certain cancers, including cancers of the upper aerodigestive tract, colorectum, liver and breast in women. Due to the nature of how this carcinogen works in the body, a person can reduce their risk of cancer through any reduction in alcohol consumption.[406]
    - Overall, consuming less than seven drinks a week is associated with longer life expectancy of up to two years compared to those who consume 14 to 24 drinks per week, and a longer life expectancy of up to five years compared to those who consume more than 25 drinks per week.[407]
- By appropriately addressing substance use, employers can avoid losses in productivity, improve morale, and reduce workplace accidents, injuries, absenteeism and illness.[408]

HEALTH PROMOTION BENEFITS AND STRATEGIES

- Addiction treatment programs can help people with SUDs abstain from use and take better advantage of available services.[408] However, according to data from 2016, only one in six people living with a SUD received treatment.[26] Evidence shows that SUDs can be treated effectively, with remission rates on par with other chronic diseases, with proper treatment plans and medication.[409]
- Early intervention has been shown to reduce the risk of injury or adverse health or social effects and can slow or altogether prevent the progression of substance use into a disorder. Early intervention involves providing information on risks, education on safe levels of use, and strategies for how to stop or limit use of the substance, including the promotion of behavioral therapy, which tends to be under-used.[410,411]
- Workplace intervention and prevention policies can help people manage their substance use behaviors and needs and even help to reduce substance use, while creating a safer work environment with improved motivation and productivity.[412,413]
- Screenings are a low-cost and reliable way to identify cases of substance misuse and SUDs.[414]
    - Identification of an issue is a critical first step. In one study, more than two-thirds of participants thought their problem could have been recognized earlier and shared fears of embarrassment, stigma and professional consequences as barriers to seeking help.[415]

ADDITIONAL NOTES

- A person's susceptibility to developing an addiction is related to a number of factors, and the more risk factors a person is exposed to, the more likely they are to confront a problem with addiction. Genes account for an estimated 40% to 60% of a person's risk of addiction, but some other significant risk factors include community poverty and general social environment, lack of parental supervision or parents who use drugs, a co-existing mental health condition, the availability of drugs at school and the age of first use.[416-423]
- Substance use affects every subsect of society, but trends indicate that men may be more likely to suffer from SUDs than women.[424]
- Alcohol and drug use initiation tends to peak at adolescence and early adulthood, particularly for those who have experienced childhood adversity or trauma, making this a critical time for intervention.[425,426]

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