

COVID-19 & BEYOND: WELL LIVING LAB SAFE INDOOR ENVIRONMENT PROGRAM



INTRODUCTION

As states across the country plan for businesses to reopen, guiding documents have been developed by a variety of organizations about how to reintegrate employees back into the workplace.

The Well Living Lab research team conducted an extensive and comprehensive review of more than 20 documents to evaluate existing recommendations, identify knowledge gaps, and detect unresolved questions.

This information is being used to inform the COVID-19 & Beyond: Well Living Lab Safe Indoor Environment Program with three distinct aims: 1) air; 2) surface; and 3) behavior.

HIGHLIGHTS & COMMON THEMES



General Building Guidelines

Audience: Human Resources & Administration

Includes pre-screening and illness monitoring; flexible work schedules and sick leave; continuity of operations; sanitation supplies; COVID-19-related communications, including hand-washing, travel-related policies, event and meeting guidelines, and visitor policies.



Physical Distancing

Audience: General Occupants

Keeps occupants separated to mitigate the virus transmission path; most organizations identified 6-feet as the indoor distance they considered safe.



Workplace Occupancy

Audience: General Occupants

Plays a practical role in achieving physical distancing strategies; ensures overall workspace occupancy adheres to safe and desirable standards.



Interior Design Intervention

Audience: General Occupants

Assists in achieving physical distancing strategies; includes alteration of office layout, such as removing 50-60% of chairs in conference rooms, staggering work stations, installing physical protection barriers, or forbidding use of some shared spaces; signage reminding occupants of safe distancing guidelines.



Surface Disinfection Strategies

Audience: Corporate Service Group

Encourages higher frequency of cleaning/ disinfecting the workplace (especially high-touch surfaces); update routines to ensure disinfecting is done safely and correctly.



Personal Protective Equipment (PPE) Usage

Audience: General Occupants

Documentation varies regarding mask usage, but most organizations recommend or require use of masks/PPE while in the office; some also encourage use of masks during public commutes; consideration should be given to regular mask cleaning.



Hand Disinfection Strategies

Audience: General Occupants

Encourages employees to make a habit of disinfecting their hands often, which can be achieved by regular hand-washing often, use of hand sanitizer, and by limited sharing of office supplies.



Ventilation/Filtration/Humidification Control

Audience: Building Facility Group

Suggests increased air exchange rates; stop recirculating air, if possible – if not, then install high performance filters in air handlers; keep temperatures within a comfortable range with relative humidity to 30-60% following EPA/ASHRAE guidance or 40-50% as an optimal range.



Education & Reporting

Audience: Human Resources & Administration

Communicates to employees about all return-to-work topics, including stress & resiliency levels; implementation of flexible work-from-home guidelines; policies related to the restriction of nonessential visitors; development of new policies related to outbound/inbound deliveries; education related to proper hand-washing and other efforts to mitigate the transmission of COVID-19.

KNOWLEDGE GAPS & UNRESOLVED QUESTIONS

While much of the documentation is consistent across organizations, the scientific evidence behind the policies being adopted is insufficient; therefore, the effectiveness of adopting such policies to prevent virus transmission remains uncertain.

Social distancing and PPE are the most commonly referenced approaches to slow the spread of COVID-19. Other measures to effectively mitigate air transmission of COVID-19 must be studied, in particular the role of HVAC and advanced filtration systems. The influence of the duration of exposure to contaminants and that of temperature and humidity remains to be addressed. Finally, the sustainability of some measures particularly as they relate to changes in human behavior is not known.

Selected examples of unresolved critical questions include:

- Is six feet an adequate distance to protect individuals in an open office setting?
- Should people still wear masks even if maintaining six feet of distance between them?
- What types of masks are most effective in preventing virus transmission?
- What are the optimal settings of HVAC and advanced filtration systems to reduce airborne transmissions? Under what conditions?
- What are the most effective approaches to surface disinfection?
- How can we best ensure human adherence to mitigation measures?

By categorizing the above information into three domains – 1) air; 2) surface; and 3) behavior – the Well Living Lab team can begin to identify ways to address the knowledge gaps as part of the COVID-19 & Beyond: Well Living Lab Safe Indoor Environment Program.