

EVIDENCE SYNTHESIS BRIEFING NOTE

TOPIC: INTERVENTIONS PREVENTING OR CONTROLLING THE SPREAD OF COVID-19 IN WORKPLACES

This Briefing Note was completed by the Research, Analysis, and Evaluation Branch (Ministry of Health).

Information finalized as of February 11, 2021.^a

Purpose: This briefing note provides a summary of recommended interventions that may prevent or control the spread of COVID-19 in workplaces across jurisdictions.

Key Findings and Implications: 11 workplace interventions are identified in Canada (British Columbia, Alberta, Manitoba, Ontario, Quebec), Europe (United Kingdom [UK]), and the United States (US). Less commonly referenced interventions include COVID-19 organizational leadership, infectious disease preparedness plans, COVID-19 screening, triaging of suspected COVID-19 cases, and heating, ventilation and air conditioning. Most commonly recommended interventions are as follows:

- **Education on and Awareness of COVID-19 Workplace Interventions:** Education, training, and awareness is recommended on topics such as workplace sick leave, personal protective equipment (PPE), hand hygiene, and public health measure communication and information in the workplace.
- **Interventions Outside the Workplace:** Employers can offer incentives encouraging their employees to use different forms of transportation that minimize close contact with others (e.g., biking, carpooling), and allow shifting in worker hours to commute during less busy times.
- **Physical Distancing:** Interventions recommended to increase physical distancing in the workplace include: flexible worksites (i.e., telecommuting); flexible work hours (i.e., staggered shifts); limiting use of other workers' equipment; increase physical space between workers; using signs, tape marks, plexi shields, or other visual cues to indicate where to stand when physical barriers are not possible; close or limit access to common areas where employees congregate; deliver services or meetings remotely (i.e., phone, video); stagger lunch breaks, and offer paid sick leave.
- **Hand Hygiene:** Frequent and thorough hand washing is recommended in the workplace through hand washing and sanitizing stations.
- **Disinfection and Sanitizing:** Disinfection and sanitization interventions include routine cleaning and disinfecting of commonly used surfaces and equipment in the workplace using cleaning detergent followed by disinfection with an approved disinfectant product.
- **PPE:** PPE is recommended in essential and non-essential workplaces (i.e., schools, childcare, LTC, food industry, and general worksites) to prevent the spread of COVID-19. Face masks must be worn by workers in the workplace settings noted above, along with face shields, medical grade masks, and/or disposable gloves where required.

Analysis of Ontario:

- **Recommended Interventions:** To reduce the spread of COVID-19, it is recommended to restrict staff members to one work site and avoid the use public transportation through carpooling or using company vans.
- **Implemented Interventions:** PPE interventions have been implemented in essential workplaces across Ontario.
 - **Schools:** All staff in schools must wear masks, with reasonable exceptions for medical conditions. Medical masks and eye protection (i.e., face shields) for teachers and school board staff should be supplied.
 - **Child Care:** Child care staff, home child care providers, home child care visitors, and early childhood education students are required to wear a medical mask and eye protection (e.g., face shields, safety glasses, and goggles) while inside in the child care premises, including in hallways and staff rooms.

^a This briefing note includes current available evidence as of the noted date. It is not intended to be an exhaustive analysis, and other relevant findings may have been reported since completion.

Supporting Evidence

[Table 1](#) below summarizes jurisdictional experiences on recommended interventions preventing or controlling the spread of COVID-19 in workplaces. In terms of jurisdictional experience, information is presented on Canada (British Columbia, Alberta, Manitoba, Ontario, Quebec), Europe (EU [UK]), and the US. No scientific evidence was identified.

Additional details are provided in [Table 2](#) (recommended interventions preventing or controlling the spread of COVID-19 in workplaces across jurisdictions) in the Appendix.

Table 1: Summary of Jurisdictional Experiences on Recommended Interventions Preventing or Controlling the Spread of COVID-19 in Workplaces

International Scan	<ul style="list-style-type: none"> ● Education on and Awareness of COVID-19 Workplace Interventions: Education, training, and awareness is recommended on topics such as workplace sick leave (US), personal protective equipment (PPE) (US), hand hygiene (US), and public health measure communication and information in the workplace (US, EU). ● Organizational Leadership: Identifying a COVID-19 workplace coordinator can help identify, deal, and resolve COVID-19 issues (US). ● Interventions Outside the Workplace: Employers who have employees who commute to work using public transportation should consider offering employees: incentives to use different forms of transportation that minimize close contact with others (i.e., biking, walking, driving, or riding by care alone or with household members); allow shifting in hours to commute during less busy times; and requesting hand washing or sanitizing after commuting (US). ● Physical Distancing: The following interventions are recommended to increase physical distancing in the workplace: <ul style="list-style-type: none"> ○ Flexible worksites (i.e., telecommuting) (EU, UK, US); ○ Flexible work hours (i.e., staggered shifts) (UK, US); ○ Limiting use of other workers' phones, desks, offices, or other work tools and equipment, when possible (EU, UK, US); ○ Increase physical space between employers at the worksite by modifying the workspace (EU, UK, US); ○ Increase physical space between employees and customers (i.e., drive through service, physical barriers) (EU, UK, US); ○ Use of signs, tape marks, or other visual cues to indicate where to stand when physical barriers are not possible (EU, UK, US); ○ Close or limit access to common areas where employees congregate (UK, US); ○ Prohibit handshaking or physical contact (EU, US); and ○ Deliver services or meetings remotely (i.e., phone, video) (EU, US). ● Hand Hygiene: Frequent and thorough hand washing is recommended in the workplace through the following interventions: <ul style="list-style-type: none"> ○ A designated space for workers to regularly and thoroughly wash their hands with soap and water (EU, UK, US); ○ If soap and running water are not immediately available, provide alcohol-based hand rubs containing at least 60% alcohol placed in prominent locations (EU, UK, US); and
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	<ul style="list-style-type: none"> ○ Placing information and communication promoting hand hygiene throughout the workplace (EU). ● Disinfection and Sanitizing: The following disinfection and sanitization interventions are recommended: <ul style="list-style-type: none"> ○ Maintaining regular housekeeping practices, including routine cleaning and disinfecting of surfaces, equipment, and other elements of the work environment (US); ○ Disinfecting high-touch surfaces (i.e., commonly used areas, door and window handles, light switches, kitchen and food preparation areas) (EU, UK, US); ○ Cleaning using soap or a neutral detergent, water using a mechanical action (i.e., brushing, scrubbing). After the cleaning process is completed, disinfection should be used to inactivate pathogens and other microorganisms on surfaces (EU); ○ The selection of disinfectants should align with the local authorities' requirements for market approval, including any regulations applicable to specific sectors (EU, US); and ○ Waiting 24 hours before cleaning and disinfecting areas exposed to a sick employee to minimize potential of respiratory droplet exposure to other employees. During this waiting period, outside doors and windows should be opened to increase air circulation in these areas (US). ● Personal Protective Equipment (PPE): PPE is recommended in essential and non-essential workplaces to prevent the spread of COVID-19: <ul style="list-style-type: none"> ○ <u>School:</u> Mandatory face covering is required when inside a building whenever it is not feasible to maintain six feet of physical distancing (US); and ○ <u>General Workplace:</u> PPE is required based on the workplace and hazard to the worker, and if required it must be fitted, periodically refitted, regularly inspected, maintained, replaced and properly removed to avoid contamination of self, others, or the environment (US). ● Infectious Disease Preparedness Plans: Infectious disease preparedness and response plans help guide protective actions against COVID-19. Plans should consider and address the level(s) of risk associated with various worksites and job tasks workers perform at those sites (EU, US). Various steps in preparedness plans can include: initial testing of all workers before entering a workplace; periodic testing of workers at regular intervals; targeted testing for new workers or those returning from a prolonged absence; and identifying what work activity or situations might cause transmission of the virus (US). Other considerations include: considering individuals that could be at risk; deciding how likely a worker could be exposed; and acting to control the risk (EU, UK). ● Triaging of Suspected or Confirmed COVID-19 Infection: Sick employees should report their symptoms to their employer, be encouraged to self-isolate, and stay at home. It is recommended that employers have sick leave policies that are flexible, non-punitive, and supportive (EU, US). ● COVID-19 Screening: The purpose of a workplace screening process is to verify employees' symptoms and temperature prior to them entering a workplace setting. The screening process may consist of a screener who wears PPE (i.e., face mask, eye protection) and stands behind a physical barriers/partition (EU, US). ● Heating, Ventilation, Air Conditioning: Ventilation reduces the concentration of the virus in the air and therefore reduces the risks from airborne transmission. Some HVAC
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	<p>COVID-19 measures include turning off demand-controlled ventilation, considering the use of portable high-efficiency particulate air (HEPA) fan/filtration systems to help enhance air cleaning, and using ultraviolet germicidal irradiation (UVGI) as a supplement to help inactivate SARS-CoV-2 (US). In addition, it is recommended to generally air out rooms or increase outdoor ventilation (UK, US).</p>
<p>Canadian Scan</p>	<ul style="list-style-type: none"> • Education on and Awareness of COVID-19 Workplace Interventions: Education, training, and awareness is recommended on topics such as hand hygiene and workplace COVID-19 symptoms which are delivered in various languages (Canada). • Organizational Leadership: In long-term care settings, it is recommended to have an infection prevention and control (IPC) lead, particularly in large, high risk facilities where outbreaks have occurred. An IPC lead can ensure accountability, enhance operations and communication, and facilitate interactions with public health (Canada). • Interventions Outside the Workplace: Strategies outside the workplace that can help control COVID-19 within the workplace include restricting staff members to one worksite and avoiding public transportation through encouraging the use of carpooling or company vans (British Columbia, Alberta). • Physical Distancing: The following interventions are recommended to increase physical distancing in the workplace (Canada): <ul style="list-style-type: none"> ○ Plexi-shields separating employees from patrons; ○ Spacing out workstations; ○ Staggering work shifts to limit the number of employees in a workplace at a given time; ○ Staggering lunch breaks, and organizing employees into work groups to minimize interaction; and ○ Implementing paid leaves and/or other means of ensuring job security if employees are symptomatic or asymptomatic with COVID-19. • Hand Hygiene: Hand washing and alcohol-based hand sanitizing stations (i.e., containing at least 60% alcohol) should be readily and easily available throughout the workplace. • Disinfection and Sanitizing: When a COVID-19 case is identified at a workplace, all surfaces the infected person encountered must be cleaned, which is in addition to routine cleaning of high-traffic areas. The products, timing, and processes for cleaning differ based on the outbreak site, with hospitals and LTC facilities having different requirements (Canada). • Personal Protective Equipment (PPE): PPE is recommended in essential workplaces to prevent the spread of COVID-19 (Canada). <ul style="list-style-type: none"> ○ <u>Homeless Shelter:</u> Staff who are not dealing directly with clients and who are not within six feet should cover their face with a covering. For staff who are doing client temperature screening at intake, a physical barrier (i.e., plastic partition) is recommended. However, if the physical barrier is not available, then a medical facemask (not a cloth mask), eye protection, and disposable gloves should be used. For medical staff providing care, a N95 respirator, eye protection, gowns, and gloves should be used. ○ <u>Food Industry:</u> For food businesses, PPE such as face masks, hair nets, disposable gloves, clean overalls, and slip reduction work shoes should be supplied for staff.

	<ul style="list-style-type: none"> ○ <u>Schools</u>: Staff members must wear a face covering at all times when moving around the school. In schools located in red and orange zones, wearing a procedural mask is mandatory for all school staff at all times in common areas, in rooms used by staff, and on school grounds (Quebec). Wearing masks in school is mandatory for all students in grades four to 12 students and all staff, and is optional for students in kindergarten to grade three. In September 2020, teachers and students were provided with two reusable masks from the Alberta government. Should a teacher prefer a different face mask (i.e., higher quality) than what is provided or choose to wear a face shield in addition to a face mask, this would be at the teacher’s expense (Alberta).
<p>Ontario Scan</p>	<ul style="list-style-type: none"> ● Interventions Outside the Workplace: Strategies outside the workplace that can help control COVID-19 within the workplace include restricting staff members to one worksite and avoiding public transportation through encouraging the use of carpooling or company vans. ● Personal Protective Equipment (PPE): <ul style="list-style-type: none"> ○ <u>Schools</u>: All staff in schools must wear masks, with reasonable exceptions for medical conditions. Medical masks and eye protection, such as face shields, for all teachers and other school board staff are supplied. School staff who are regularly in close contact with students will be provided with all appropriate PPE. ○ <u>Child Care</u>: Child care staff, home child care providers, home child care visitors, and early childhood education students are required to wear a medical mask and eye protection (e.g., face shields, safety glasses, and goggles) while inside the child care premises, including in hallways and staff rooms (unless eating, but time with masks off should be limited and physical distance should be maintained).

Table 2: Recommended Interventions Aiming to Control or Prevent the Spread of COVID-19 in Essential or Non-Essential Workplaces

Jurisdiction Institution of Source Document Workplace Setting	Description of Recommended Workplace Intervention
Education on and Awareness of COVID-19 Workplace Interventions	
<p>Canada</p> <p>Alberta Health Service (AHS)</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • An Alberta Health Service (AHS) report (April 29, 2020) on evidence-based strategies used to control COVID-19 outbreaks in various workplace settings, indicated that employees should undergo education on symptom awareness. Employees should be provided with education (i.e., in written form, preferably in their first language) about potential symptoms of COVID-19.¹
<p>Canada</p> <p>AHS</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • The Alberta Health Service (AHS) report (April 29, 2020) notes that employees should be educated on appropriate hand hygiene with soap and water for at least 20 seconds.¹
<p>Europe</p> <p>World Health Organization (WHO)</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • A WHO report (May 10, 2020) on considerations for public health and social measures in the workplace in the context of COVID-19 recommends providing posters, videos, and electronic message boards to: increase awareness of COVID-19 among workers; promote safe individual practices at the workplace; and engage workers in providing feedback on the preventive measures and its effectiveness. • Regular information should be provided about the risk of COVID-19 using official sources (i.e., government agencies and WHO) and emphasize the effectiveness of adopting protective measures and counteracting rumours and misinformation. • Special attention should be given to reaching out to and engaging vulnerable and marginalized groups of workers (i.e., migrant workers, domestic workers, subcontracted, and self-employed workers).⁴
<p>United States</p> <p>Occupational Safety and Health Administration (OSHA)</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • An OSHA report (2020) on preparing workplaces for COVID-19 encourages workers to stay home if they are sick and recommends workers learning of respiratory etiquette, including covering coughs and sneezes. Furthermore, the report advises providing workers with up-to-date education and training (e.g., PPE donning and doffing) with respect to COVID-19 outbreaks.²

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<p>United States</p> <p>Centers for Disease Control (CDC)</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • A CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 recommends educating employees about the following steps to protect employees at work and at home: <ul style="list-style-type: none"> ○ Stay home if employees are sick and learn what to do if sick; ○ Inform the supervisor if a household member is sick with COVID-19; ○ Wear a mask when out in public and when around people who do not live in the employee’s household; ○ Wash hands often with soap and water for at least 20 seconds or use a hand sanitizer with at least 60% alcohol if soap and water are not available; ○ Avoid touching eyes, nose, and mouth with unwashed hands; ○ Cover mouth and nose with tissue when coughing or sneezing or use the inside of the elbow; ○ Practice routine cleaning and disinfection of frequently touched objects and surfaces such as workstations, keyboards, telephones, handrails, and doorknobs; ○ Avoid using other employees’ phones, desks, offices or other work tools and equipment, when possible; and ○ Practice physical distancing by avoiding large gatherings and maintain a six feet distance from others. • Communicate supportive workplace policies clearly, frequently, and via multiple methods: <ul style="list-style-type: none"> ○ Train workers to implement new policies; ○ Communicate to contractors or on-site visitors about changes in the policies and procedures; ○ Create and test communication systems that employees can use to self-report if sick; and ○ Use a hotline to voice to allow employees to voice concerns anonymously.³
Organizational Leadership	
<p>Canada</p> <p>AHS</p> <p>Essential or Non-Essential: General Workplace Setting LTCH Setting</p>	<ul style="list-style-type: none"> • The Alberta Health Service (AHS) report (April 29, 2020) recommends implementing an infection, prevention and control (IPC) lead or focal point in long-term care home (LTCH) settings. This suggestion may be valuable for any large, high-risk facility—particularly ones where outbreaks have already occurred. The designation of such an individual may be a helpful proactive measure that could ensure accountability, enhance operations and communication, and facilitate interactions with public health.¹
<p>United States</p> <p>CDC</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<p>The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 suggests identifying a workplace coordinator who is responsible for COVID-19 issues and the impact in the workplace.³</p>

Jurisdiction Institution of Source Document Workplace Setting	Description of Recommended Workplace Intervention
Interventions Outside the Workplace	
<p>Canada British Columbia, Alberta, Ontario</p> <p>AHS</p> <p>Essential: LTCH Setting</p>	<ul style="list-style-type: none"> The Alberta Health Service (AHS) report (April 29, 2020) suggested that to reduce the spread of COVID-19, it is recommended to restrict staff members to one work site and avoid the use public transportation through carpooling or using company vans.¹
<p>United States</p> <p>CDC</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 recommends that employees who commute to work using public transportation or ride sharing should consider offering the following support: <ul style="list-style-type: none"> Employers should offer employees incentives to use forms of transportation that minimize close contact with others (i.e., biking, walking, driving, or riding by care alone or with household members); Employers should ask employees to follow the CDC report on how to Protect Yourself When Using Transportation; Employers should allow employees to shift their hours to commute during less busy times; and Employers should ask employees to clean hands as soon as possible after the commute.³
Physical Distancing	
<p>Canada</p> <p>AHS</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The Alberta Health Service (AHS) report (April 29, 2020) suggests that while optimal physical distancing is two meters, the WHO recommends a minimum of one meter (i.e., three feet) between workers. To maximize physical distancing, other measures can also be implemented, for instance: plexi-shields separating employees from patrons or other employees; staggered workstations on either side of processing lines so that employees are not face-to-face, spacing out workstations, however at the expense of slowing down production line; staggering work shifts to limit the number of employees in the facility at a given time; staggering lunch breaks; and organizing employees into work groups so as to minimize interaction.¹
<p>Canada</p> <p>AHS</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The Alberta Health Service (AHS) report (April 29, 2020) suggests that symptomatic employees and visitors should not be entering the workplace. To facilitate this, employees should be provided with easy methods of informing their supervisors about their absence. To optimize compliance, paid leaves and/or other means of ensuring job security are beneficial. In addition, a minimum of daily risk factor (i.e., contact with COVID-19 case or travel) and symptoms screens, with the inclusion of temperature checks, are recommended (i.e., twice daily checks in Ontario).¹
<p>Europe</p> <p>WHO</p>	<ul style="list-style-type: none"> The WHO report (May 10, 2020) on COVID-19 measures in the workplace recommends implementing measures to maintain physical distance of at least one meter between workers and avoid direct physical contact with other persons (i.e., hugging, touching, shaking

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<p>Essential or Non-Essential: General Workplace Setting</p>	<p>hands), strict control over external access, and queue management (i.e., marking on the floor, barriers). The WHO recommends reducing the density of people in the building (i.e., no more than one person per every 10 square meters) and maintaining physical distance of at least one meter apart for workstations and common spaces (i.e., entrances/exits, elevators, pantries/canteens, stairs). The need for physical meetings should be minimized by using teleconferencing facilities and working hours should be staggered to avoid crowding.⁴</p>
<p>United Kingdom</p> <p>Health and Safety Executive (HSE)</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • A HSE report (Dec 2, 2020) on making workplaces secure during the COVID-19 pandemic recommends the following measures to maintain physical distancing: <ul style="list-style-type: none"> ○ Using floor tape or paint to mark work areas; ○ Providing signage to remind people to keep a two-meter distance; ○ Having people working side-by-side rather than face-to-face; and ○ Limiting movement of people by rotating between jobs an equipment, using work vehicles, in high-traffic areas like corridors, and allow only essential trips within building and between sites. • The HSE report recommends implementing the following control measures in common areas (e.g., break areas, bathrooms, toilets, meeting rooms): <ul style="list-style-type: none"> ○ Limit the number of people at any one time using any areas that may become congested; ○ Use floor markings to maintain physical distancing; ○ Try to maximize ventilation; ○ Ensure that the workforce is clear on the rules when using common areas; ○ Minimize contact between people using barriers or screens; ○ Display signs reminding people to socially distance, wash hands, and not touch their faces; and ○ Work with landlords and other tenants in multi-tenant sites to ensure consistency across areas such as receptions and staircases. • Workstations are areas where workers routinely work such as desks in the workplace, production lines, areas by machinery that workers need to operate, and vehicles. The following should be considered: <ul style="list-style-type: none"> ○ Organize workstations to allow employees to meet physical distancing rules; ○ Review layouts and processes to allow people to work two meters apart from each other; ○ Use floor tape or paint to mark areas; ○ Manage occupancy levels; and ○ Avoid any sharing of workstations. Where workstations must be shared, maintain the same set of people using the station. • Limit the number of people entering the workplace or parts of the workplace to avoid overcrowding. Where possible, introduce shift working to limit the number of people in the workplace at any one time, which can also reduce the burden on public transport. The following should be considered when employees are arriving or leaving work: <ul style="list-style-type: none"> ○ Stagger arrival and departure times; ○ Provide additional parking or facilities (i.e., bike racks);

Jurisdiction Institution of Source Document Workplace Setting	Description of Recommended Workplace Intervention
	<ul style="list-style-type: none"> ○ Provide more entry points to reduce congestion; ○ Provide more storage for workers' clothes and bags; ○ Use markings and introduce one-way flow at entry and exit points; ○ Provide handwashing or hand sanitizer facilities at entry and exit points; and ○ Avoid using touch-based security devices such as keypad.⁵
<p>United States</p> <p>OSHA</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> ● The OSHA report (2020) on preparing workplaces for COVID-19 states that employers should explore whether they can establish policies and practices, such as flexible worksites (i.e., telecommuting) and flexible work hours (i.e., staggered shifts), to increase the physical distance among and between employees if state and local health authorities recommend the use of social distancing strategies.²
<p>United States</p> <p>CDC</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> ● The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 recommends the following interventions that employers can implement in the workplace to maintain physical distancing: <ul style="list-style-type: none"> ○ Implement flexible worksites (i.e., telework); ○ Implement flexible hours (i.e., stagger shifts); ○ Increase physical space between employers at the worksite by modifying the workspace; ○ Increase physical space between employees and customers (i.e., drive through service, physical barriers); ○ Use of signs, tape marks, or other visual cues to indicate where to stand when physical barriers are not possible; ○ Implement flexible meeting and travel options (i.e., postpone in-person meetings); ○ Close or limit access to common areas where employees congregate; ○ Prohibit handshaking; ○ Deliver services remotely (i.e., phone, video); ○ Adjust the business practice to reduce close contact with customers (i.e., online shopping, shop-by-phone); ○ Move the electronic payment terminal/credit card reader farther away from the cashier; and ○ Shift primary stocking activities to off-peak or after hours.³

Jurisdiction Institution of Source Document Workplace Setting	Description of Recommended Workplace Intervention
Hand Hygiene	
<p>Canada</p> <p>AHS</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The Alberta Health Service (AHS) report (April 29, 2020) indicated that hand washing and alcohol-based (at least 60%) hand sanitizing stations should be readily and easily available throughout the workplace.¹
<p>Europe</p> <p>WHO</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The WHO report (May 10, 2020) on COVID-19 measures in the workplace recommends encouraging regular and thorough handwashing with soap and water or alcohol-based hand-rub before starting work, before eating, frequently during the shift, especially after contact with co-workers or customers, after going to the bathroom, after contact with secretions, excretions and body fluids, after contact with potentially contaminated objects (i.e., gloves, clothing, masks, used tissue, waste), and immediately after removing gloves and other protective equipment but before touching eyes, nose, or mouth. Hand hygiene stations, such as hand washing and hand rub dispensers, should be placed in prominent locations around the workplace and be made accessible to all staff, contractors, clients or customers, and visitors along with communication materials to promote hand hygiene.⁴
<p>United Kingdom</p> <p>HSE</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The HSE report (Dec 2, 2020) on making workplaces secure during the COVID-19 pandemic recommends keeping the workplace clean and encourages frequent handwashing to reduce COVID-19 spread. Employers should provide: <ul style="list-style-type: none"> Handwashing facilities with running water, soap, and paper towels or hand dryers; Hand sanitizer at locations in addition to washrooms, such as sanitizing stations in shops; and Hand sanitizer nearby for people getting in and out of vehicles.⁵
<p>United States</p> <p>OSHA</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The OSHA report (2020) on preparing workplaces for COVID-19 suggests promoting frequent and thorough hand washing by providing workers, customers, and worksite visitors with a place to wash their hands. If soap and running water are not immediately available, alcohol-based hand rubs containing at least 60% alcohol should be provided.²

Jurisdiction Institution of Source Document Workplace Setting	Description of Recommended Workplace Intervention
Disinfection and Sanitizing	
<p>Canada</p> <p>AHS</p> <p>Non-Essential and Essential: General Workplace Setting LTCH Setting Hospital Setting</p>	<ul style="list-style-type: none"> The Alberta Health Service (AHS) report (April 29, 2020) indicated that if a COVID-19 infection is identified in someone at a high-risk workplace, all surfaces the infected person encountered must be cleaned, which is in addition to routine cleaning of high-traffic areas. The products, timing, and processes for cleaning differ based on the outbreak site, with hospitals and LTC facilities have different requirements.¹
<p>Europe</p> <p>WHO</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The WHO report (May 10, 2020) on COVID-19 measures in the workplace recommends cleaning using soap or a neutral detergent, water, and mechanical action (i.e., brushing, scrubbing). After the cleaning process is completed, disinfection should be used to inactivate pathogens and other microorganisms on surfaces. The selection of disinfectants should align with the local authorities' requirements for market approval, including any regulations applicable to specific sectors. High-touch surfaces should be identified for priority disinfection (i.e., commonly used areas, door and window handles, light switches, kitchen and food preparation areas, etc.). Disinfectant solutions should always be prepared and used according to the manufacturer's instructions. In indoor workplaces, routine application of disinfectants to environmental surfaces via spraying is generally not recommended because it is ineffective at removing contaminants outside of direct spray zones and can cause eye, respiratory and skin irritation. In outdoor workplaces, as of May 10, 2020, there is insufficient evidence to support recommendations for large-scale spraying or fumigation and spraying of people with disinfectants is not recommended.⁴
<p>United Kingdom</p> <p>HSE</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The HSE report (Dec 2, 2020) on making workplaces secure during the COVID-19 pandemic recommends completing a risk assessment to identify the specific cleaning regimen. Surfaces that are touched regularly should be cleaned frequently such as doors, bannisters, and buttons. Measures should be implemented to clean surfaces and objects after each use where possible such as phones and conferencing facilities in a meeting room. The HSE recommends reducing the need for cleaning by limiting movement of people around the workplace and reducing people's need to touch surfaces or objects.⁵
<p>United States</p> <p>OSHA</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The OSHA report (2020) on preparing workplaces for COVID-19 suggests maintaining regular housekeeping practices, including routine cleaning and disinfecting of surfaces, equipment, and other elements of the work environment. When choosing cleaning chemicals, employers should consult information on Environmental Protection Agency (EPA) approved disinfectant labels with claims against emerging viral pathogens. Products with EPA-approved emerging viral pathogens claims are expected to be effective against SARS-CoV-2 based on data for harder to kill viruses. The report recommends following the manufacturer's instructions for use of all cleaning and disinfection products (e.g., concentration, application method and contact time, PPE).²

Jurisdiction Institution of Source Document Workplace Setting	Description of Recommended Workplace Intervention
<p>United States</p> <p>CDC</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 indicates that if it has been less than seven days since a sick employee has been in the facility, any areas used for prolonged periods of time by the sick person should be closed off. The CDC recommends waiting 24 hours before cleaning and disinfecting to minimize the potential of exposure for other employees to respiratory droplets. During this waiting period, outside doors and windows should be opened to increase air circulation in these areas. If it has been more than seven days since the sick employee used the facility, additional cleaning and disinfection are not necessary. Routine cleaning and disinfection of all high-touch surfaces in the facility should continue.³
<p>Personal Protective Equipment (PPE)</p>	
<p>Canada</p> <p>AHS</p> <p>Essential: Homeless Shelters</p>	<ul style="list-style-type: none"> The Alberta Health Service (AHS) report (April 29, 2020) indicated that for homeless shelters, the CDC recommends that all residents cover their face with a cloth covering. It is recommended that staff who are not dealing directly with clients (who are not within six feet) cover their face with a cloth covering. If available, medical masks would be preferred based on existing evidence. For staff who are doing client temperature screening at intake, a physical barrier (i.e., plastic partition) is recommended. However, if that is not available, a medical facemask (not a cloth mask), eye protection, and disposable gloves are recommended. For medical staff providing care, a N95 respirator, eye protection, gowns, and gloves are recommended. These recommendations vary from other jurisdictions, for example, in Alberta, N95 respirator use is only recommended for aerosol generating medical procedures and these procedures are not to be undertaken by homeless shelter staff.¹
<p>Canada</p> <p>AHS</p> <p>Essential: Food Industry</p>	<ul style="list-style-type: none"> The Alberta Health Service (AHS) report (April 29, 2020) indicated that for food businesses, the WHO states that workplaces should provide PPE such as face masks, hair nets, disposable gloves, clean overalls, and slip reduction work shoes for staff.¹
<p>Canada Ontario</p> <p>Toronto Public Health</p> <p>Essential: Child Care Settings</p>	<ul style="list-style-type: none"> According to a Toronto Public Health report (Feb 12, 2021) on COVID-19 guidance for child care settings, child care staff, home child care providers, home child care visitors, and early childhood education students are required to wear a medical mask and eye protection (e.g., face shields, safety glasses, and goggles) while inside in the child care premises, including in hallways and staff rooms (unless eating, but time with masks off should be limited and physical distance should be maintained). The use of masks and eye protection is not required for staff/early childhood education students, home child care providers, or children when outdoors if physical distancing can be maintained.⁶
<p>Canada Ontario</p> <p>Ministry of Education</p> <p>Essential: School Setting</p>	<ul style="list-style-type: none"> According to a Ministry of Education report (2020) All school-based staff will be required to wear masks, with reasonable exceptions for medical conditions. Medical masks and eye protection (i.e., face shield) will be provided for all teachers and other staff of school boards.¹⁰

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<p>Canada Alberta</p> <p>The Alberta Teachers Association (ATA)</p> <p>Essential: School Setting</p>	<ul style="list-style-type: none"> An ATA report (Jan 13, 2021) on COVID-19 and schools indicates that wearing masks in school is mandatory for all grades four to 12 students and all staff and optional for students in kindergarten to grade three. In September 2020, teachers and students were provided with two reusable masks from the Alberta government. Should a teacher prefer a different face mask (i.e., higher quality) than what is provided or choose to wear a face shield in addition to a face mask, this will be at their own personal expense.¹¹
<p>Canada Manitoba</p> <p>Manitoba School Board Association</p> <p>Essential: School Settings</p>	<ul style="list-style-type: none"> According to a Manitoba School Board Association report (Sept 2020) on school re-entry protocols, masks are mandatory for all staff where distancing of two meters cannot be maintained.⁸
<p>Canada Quebec</p> <p>Government of Quebec</p> <p>Essential: School Settings</p>	<ul style="list-style-type: none"> According to a Government of Quebec report (Feb 11, 2021) guidelines specific to education notes that staff members must wear a face covering at all times when moving around the school. In schools located in red and orange zones, wearing a procedural mask is mandatory for all school staff at all times in common areas, in rooms used by staff, and on school grounds.⁹
<p>United States Texas</p> <p>Texas Education Agency</p> <p>Essential: School Setting</p>	<ul style="list-style-type: none"> According to a 2020 Texas Education Agency guidance document, schools are required to comply with the governor's Executive Order GA-29, regarding the wearing of masks. <ul style="list-style-type: none"> According to the executive order, every person shall wear a face covering when inside a commercial entity or other building or space open to the public, or when in an outdoor public space, wherever it is not feasible to maintain six feet of social distancing, with a number of exceptions (e.g., being younger than 10, having a medical condition preventing wearing a mask, eating, exercising outdoor). Face shields may be superior to cloth face coverings in many circumstances, given improved ability to see mouth movements and improved air circulation. Schools may allow students who are actively exercising to remove masks or face shields, as long as they maintain at least six feet of distance from other students, teachers, and staff who are not wearing masks or face shields.¹²
<p>United States</p> <p>OSHA</p>	<ul style="list-style-type: none"> The OSHA report (2020) on preparing workplaces for COVID-19 states that all PPE must be: <ul style="list-style-type: none"> Selected based on the hazard to the worker; Properly fitted and periodically refitted, as applicable (i.e., respirators);

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<p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> ○ Consistently and properly worn when required; ○ Regularly inspected, maintained, and replaced; and ○ Properly removed, to avoid contamination of self, others, or the environment.²
<p>Infectious Disease Preparedness Plans</p>	
<p>Europe</p> <p>WHO</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> ● The WHO report (May 10, 2020) on COVID-19 measures in the workplace advises workplaces to complete a workplace risk assessment for exposure to COVID-19 and plan for preventive measures in non-health care workplaces using the following risk levels as report: <ul style="list-style-type: none"> ○ <u>Low Exposure Risk</u>: Jobs or work tasks without frequent, close contact with the general public and other co-workers, visitors, clients or customers or contractors, that do not require contact with people known to be or suspected of being infected with COVID-19. ○ <u>Medium Exposure Risk</u>: Jobs or work tasks with close, frequent contact with the general public, or other co-workers, visitors, clients or customers, or contractors, who do not require contact with people known to be or suspected of being infected with COVID-19. In areas where COVID-19 cases continue to be reported, this risk level may be applicable to workers who have work-related frequent and close contact with the general public, visitors, or customers in high-population-density work environments (e.g., food markets, bus stations, public transport, and other work activities where physical distancing of at least one metre may be difficult to observe), or work tasks that require close and frequent contact between co-workers.. ○ <u>High Exposure Risk</u>: Jobs or work tasks with high potential for close contact with people who are known or suspected of having COVID-19, as well as contact with objects and surfaces possibly contaminated with the virus. Examples of such exposure scenarios outside of health facilities include the transportation of persons known or suspected to have COVID-19 in enclosed vehicles without separation between the driver and the passenger, providing domestic services or home care for people with COVID-19, and contact with dead bodies of persons who were known or suspected of having COVID-19 at the time of their death. ● Workplaces should develop action plans for prevention and mitigation of COVID-19 as part of the business continuity plan and according to the results of the risk assessment and the epidemiological situation. The plan should also include measures for protecting health, safety, and security in re-opening, closing, and modifying workplaces and work arrangements. The action plan and preventive measures put in place should be monitored and updated in case of changes in local epidemiological trends, new cases of COVID-19 at the workplace, or lack of compliance by workers, visitors, and clients or customers. In developing and implementing action plans for prevention and mitigation of COVID-19, workers and their representatives should be consulted and all workers should be informed about the measures introduced, using specific risk communication and community engagement approaches.⁴
<p>United Kingdom</p> <p>HSE</p> <p>Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> ● The HSE report (Dec 2, 2020) on making workplaces secure during the COVID-19 pandemic states that employers must take reasonable steps to protect workers and others by: <ul style="list-style-type: none"> ○ Identifying what work activity or situations might cause transmission of the virus; ○ Thinking about individuals that could be at risk; ○ Deciding how likely it is that someone could be exposed; and ○ Acting to remove the activity or situation, or if this is not possible, controlling the risk.⁵

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<p>United States</p> <p>OSHA</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • The OSHA report (2020) on preparing workplaces for COVID-19 recommends developing an infectious disease preparedness and response plan that can help guide protective actions against COVID-19. Plans should consider and address the level(s) of risk associated with various worksites and job tasks workers perform at those sites. Such considerations may include: <ul style="list-style-type: none"> ○ Where, how, and what sources of SARS-CoV-2 might workers be exposed (i.e., the general public and vulnerable individuals); ○ Non-occupational risk factors at home and in community settings; ○ Workers' individual risk factors (i.e., older age; chronic conditions; pregnancy); and ○ Controls necessary to address those risks.²
<p>United States</p> <p>CDC</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 suggests incorporating testing for SARS-CoV-2 into workplace preparedness, response, and control plans. Approaches may include: initial testing of all workers before entering a workplace; periodic testing of workers at regular intervals; or targeted testing of new workers or those returning from a prolonged absence.³
Triaging of Suspected or Confirmed COVID-19 Infection	
<p>Europe</p> <p>WHO</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • The WHO report (May 10, 2020) on COVID-19 measures in the workplace advises that unwell or symptomatic workers consistent with COVID-19 should be urged to stay at home, self-isolate, and contact a medical professional or the local COVID-19 information line for advice on testing and referral. Where local community transmission is high, and work continues, employers should allow for a telemedicine consultation where available, or consider waiving the requirement for a medical note for sick workers so that they may stay home. All workers should be urged to self-monitor their health, possibly with the use of questionnaires, and take their body temperature regularly. Standard operating procedures should be prepared to manage a person who becomes sick at the workplace and is suspected of having COVID-19, including placing the person in an isolation room, limiting the number of people in contact, using personal protective equipment, and performing follow-up cleaning and disinfection. Contacting the local health authorities and keeping attendance and meeting records to facilitate or undertake contact-tracing is important. Those in close contact at the workplace with persons with laboratory-confirmed COVID-19 should be quarantined for 14 days from the last time of the contact in accordance with WHO recommendations.⁴
<p>United States</p> <p>OSHA</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • The OSHA report (2020) on preparing workplaces for COVID-19 recommends promptly identifying and isolating potentially infectious individuals to protect workers, customers, visitors, and others at a worksite. Employers should inform and encourage employees to self-monitor for signs and symptoms of COVID-19 if they suspect possible exposure. Employers should develop policies and procedures for: <ul style="list-style-type: none"> ○ Employees to report when they are sick or experiencing symptoms of COVID-19; and ○ Immediately isolating people who have signs and/or symptoms of COVID-19, and train workers to implement them. • Employers should ensure that sick leave policies are flexible and that employees are aware of these policies. ²

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<p>United States</p> <p>CDC</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 suggests actively encouraging sick employees to stay at home. Employees who have symptoms should notify their supervisor and stay home. The CDC recommends testing for people with any signs or symptoms of COVID-19 and for all close contacts of persons with COVID-19. Employees who are sick with COVID-19 should isolate and follow CDC-recommended steps. Employees who are asymptomatic (i.e., have no symptoms) or pre-symptomatic (i.e., not yet showing symptoms) but have tested positive for SARS-CoV-2 infection should also isolate and follow CDC-recommended steps. Employees should not return to work until the criteria to discontinue home isolation are met, in consultation with health care providers. Employees who are well but who have a sick household member with COVID-19 should notify their supervisor and follow CDC-recommended precautions. Employers are encouraged to implement flexible, non-punitive paid sick leave and supportive policies and practices as part of a comprehensive approach to prevent and reduce transmission among employees. <ul style="list-style-type: none"> ○ Separate Sick Employees: Employees who appear to have symptoms upon arrival at work or who become sick during the day should immediately be separated from other employees, customers, and visitors, and sent home. A procedure should be in place for the safe transport of an employee who becomes sick while at work. ○ Employees at Higher Risk: Employees at higher risk for severe illness should be supported through supportive policies and procedures. Older adults and people of any age with underlying medical conditions are at higher risk for severe illness from COVID-19. The following should be considered: options to telework; duties that minimize contact with customers and employees; and ensuring other businesses and employers share sharing the same workplace also follow this report.³
COVID-19 Screening	
<p>Europe</p> <p>WHO</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • The WHO report (May 10, 2020) on considerations for public health and social measures in the workplace in the context of COVID-19 states that thermal screening at the workplace should be considered only in the context of a combination of measures for prevention and control of COVID-19 at the workplace and along with risk communication.⁴
<p>United States</p> <p>CDC</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> • The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 states that screeners should wash their hands with soap and water for at least 20 seconds or use hand sanitizer with at least 60% alcohol and put on a facemask or respirator, eye protection (i.e., goggles or face shield) and a single pair of disposable gloves before arrival.³

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<p>United States</p> <p>CDC</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 recommends implementing barrier/partitional controls during workplace screening, whereby the screener stands behind a physical barrier, such as a glass or plastic window or partition, protecting the screener’s face and mucous membranes from respiratory droplets.³
<p>United States</p> <p>CDC</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 suggests conducting daily in-person or virtual health checks (i.e., symptom and temperature screening of employees before they enter the facility). Screening and health checks are not a replacement for other protective measures such as social distancing, mask wearing, and engineering controls (i.e., proper ventilation). <ul style="list-style-type: none"> Virtual health checks encourage individuals to self-screen prior to coming onsite via an electronic monitoring system. In-person health checks should screen if the following are present: symptoms of COVID-19; fever; undergoing evaluation for SARS-CoV-2 infection; diagnosis of SARS-CoV-2 infection in the past 10 days; and close contact to someone with SARS-CoV-2 infection during the past 14 days.³
<p>Heating, Ventilation, Air Conditioning</p>	
<p>United Kingdom</p> <p>HSE</p> <p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> The HSE report (Dec 2, 2020) on making workplaces secure during the COVID-19 pandemic states that good ventilation reduces the concentration of the virus in the air and therefore reduces the risks from airborne transmission. However, ventilation will have little or no impact on droplet or contact transmission routes. The HSE recommends identifying poorly ventilated areas by: <ul style="list-style-type: none"> Looking for areas where there is no mechanical or natural ventilation (i.e., windows, vents); Checking that mechanical systems provide outdoor air, temperature control, or both. If a system (i.e., local air conditioner) is recirculating only and does not have an outdoor air supply, or a separate source of outdoor air, the area is likely to be poorly ventilated; Identifying areas that feel stuffy or have an odour; and Using carbon dioxide (CO₂) monitors to identify the CO₂ levels to help decide if ventilation is poor. CO₂ monitors are most effective for areas that are regularly attended by the same group of people and are less effective in areas with low numbers of people. Natural ventilation can be provided through open windows and airing rooms frequently will help improve ventilation. Mechanical ventilation systems such as heating and air conditioning can help to reduce risk by: <ul style="list-style-type: none"> Using most types of mechanical ventilation as normal and set them to maximize fresh air and minimize recirculation; Extending the operating times of HVAC systems to before and after people use work areas; and Making sure mechanical systems are maintained in line with manufacturers’ instructions.⁵
<p>United States</p> <p>CDC</p>	<ul style="list-style-type: none"> The CDC report (Jan 4, 2021) for businesses and employers responding to COVID-19 recommends improving the engineering controls using the building ventilation system by: <ul style="list-style-type: none"> Increasing outdoor air ventilation;

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<p>Essential or Non-Essential: General Workplace Setting</p>	<ul style="list-style-type: none"> ○ Increasing fresh outdoor air by opening windows and doors unless it poses a safety or health risk; ○ Using fans to increase the effectiveness of open windows. Avoid placing fans in a way that could potentially cause contaminated air to flow directly from one person over another. Use a window fan, placed safely and securely in a window, to exhaust room air to the outdoors; ○ Decreasing occupancy in areas where outdoor ventilation cannot be increased; ○ Ensuring ventilation systems operate properly and provide acceptable indoor air quality for the current occupancy level for each space; ○ Turning off any demand-controlled ventilation (DCV) controls that reduce air supply based on occupancy or temperature during occupied hours. In homes and buildings where the HVAC fan operation can be controlled at the thermostat, set the fan to the “on” position instead of “auto,” which will operate the fan continuously, even when heating or air-conditioning is not required;^b ○ Inspecting and maintaining local exhaust ventilation in areas such as kitchens, cooking areas, etc., and operating these systems any time these spaces are occupied. Employers should consider operating these systems, even when the specific space is not occupied, to increase overall ventilation within the occupied building; ○ Considering portable high-efficiency particulate air (HEPA) fan/filtration systems to help enhance air cleaning (especially in higher risk areas such as a nurse’s office or areas frequently inhabited by persons with increased risk of getting COVID-19); ○ Generating clean-to-less-clean air movement by re-evaluating the positioning of supply and exhaust air diffusers and/or dampers (especially in higher risk areas); ○ Consider using ultraviolet germicidal irradiation (UVGI) as a supplement to help inactivate SARS-CoV-2, especially if options for increasing room ventilation are limited. Upper-room UVGI systems can be used to provide air cleaning within occupied spaces, and in-duct UVGI systems can help enhance air cleaning inside central ventilation systems.^{3,c}

^b Demand Control Ventilation is recognized as a method of ensuring a building is ventilated, cost effectively, while maximizing indoor air quality. Generally, sensors are used to continuously measure and monitor ambient conditions in the conditioned space and provide real time feed back to the space controls which adjust dampers and in many cases, the fan speed by modulating the ventilation rate to match the specific use and occupancy of the building ([Yorkland Controls, n.d.](#)).

^c Ultraviolet (UV) germicidal lights produce short wavelength light (or radiation) that can damage the genetic material in the nucleus of cells of microorganisms such as bacteria, viruses, and moulds. The cells may be killed or made unable to reproduce. With extended exposure, UV germicidal irradiation (UVGI) can also break down the particles that have deposited on an irradiated surface. Plastics, human skin, and eyes can also be damaged by UV light ([Berkley Lab, n.d.](#)).

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