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"Cleaning for Health" - Is your business prepared for a possible H1N1 flu virus outbreak

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The recent increase in confirmed H1N1 infections has created heightened awareness of measures that the public at large can take to protect themselves, their families and co-workers. A recent study by the Harvard School of Public Health showed that up to two-thirds of businesses and organizations may not be adequately prepared should a serious outbreak of H1N1 occur -- but also reported that businesses are interested in learning more about how to support their operations and employees in such an event. The Center for Disease Control (CDC) has issued guidelines to assist the private sector in this readiness effort (<http://www.cdc.gov/h1n1flu/business/>). This current level of "heightened awareness" may illuminate other building environmental conditions that previously went unnoticed. The purpose of this article is to examine the everyday health impact to building occupants from contaminated indoor air.

Identifying Potential Problems

The OSHA "General Duty Clause" states: "Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm..." (and to) "comply with occupational safety and health standards..." (29 USC 654 Â§5). The standard of care that has developed in response to this regulation, today influences most corporate social responsibility programs.

Occupant complaints of respiratory, allergic or immune responses should trigger an inquiry into what may literally be "right under their noses". Several building-related irritants are nearly invisible to the naked eye. Common air-quality contaminants include dust, fibers, microbes and odors from aerosolized or gaseous volatile organic compounds (VOC's). Common routes of exposure include inhalation, ingestion or contact with mucous membranes (eyes, nose, and mouth) and skin. Chronic inflammatory illness and neurological injuries from exposure to these irritants, when recognized and diagnosed as building-related and therefore preventable, expose building owners to liability.

A New Direction in Assessment and Prevention

Sound assessment and prevention measures are available. The Building Owners and Managers Association's (www.boma.org) "BOMA 360 Performance Program" evaluates several operations and management practices that include indoor air quality, green cleaning, exterior maintenance management, water management and emergency and disaster preparedness and recovery planning. The USGBC's Leadership in Energy and Environmental Design (LEED) green building rating system promotes a whole-building approach to sustainability (www.usgbc.org). Two of the five key performance areas are human/environmental health and indoor environmental quality. With the help of professionals knowledgeable in building science, indoor air quality and industrial hygiene, owners and managers of buildings of any size and age can assess the conditions of the built environment and respond with sensible and responsible measures to address any hazards.

"Health-Keeping" vs. Housekeeping

There has been a profound shift recently in cleaning methods and materials that are part of everyday maintenance programs. Leaders in the industry now match methods to the collective goals of owners, managers and occupants. Quality maintenance programs not only take into consideration the financial bottom line, but also worker and occupant needs and sensitivities, the use of new "green" products, reduced-impact methods and equipment, as well as client education and buy-in.

"Healthy" Building Materials

Another LEED key performance area includes selection of building materials, appliances, fixtures and furnishings. Many existing structures still contain unstable synthetic compounds, fibers and heavy metals found in common materials. Poor maintenance, wear and tear and careless disposal can disperse particles that go unrecognized, if not captured by thorough cleaning and filtration methods. Replacing older building materials with environmentally sustainable and "healthy" ones removes long-term exposure to toxins.

Moisture, Mold and Health

Earlier this year the World Health Organization released the "WHO guidelines for indoor air quality: dampness and mould" (sic) giving worldwide recognition to mold-related health effects. Moisture remains a significant cause of chronic poor indoor air quality. Floods, pipe breaks and drain back-ups are obvious events. Building envelope performance failures will frequently result in moisture intrusion from the exterior or vapor transmission from the interior. Gaps in insulation and draft-stopping materials will allow warm moist air to condense on cold services. Many construction and finish materials effectively hide these conditions over a prolonged period until they result in mold growth. Mold growth can result in Microbial Volatile Organic Compounds (MVOC's) that become airborne. Pressure differences between occupied spaces are capable of drawing hidden contamination into the airspace and are then distributed by the air conveyance system. An occupant complaint may occur a great distance from the source, depending on the system design. Regular inspection and cleaning of the building HVAC system can contribute to successful indoor air quality maintenance.

Remediation and Abatement

Regulated materials including asbestos and lead continue to be discovered in buildings and facilities built before 1978. Many commercial properties have been surveyed for these materials however many more have no professional survey on file. By April 22, 2010, all housing or child-occupied facilities must be in full compliance with the U.S. EPA's Renovation, Repair and Painting (RRP) Rule for lead-based paint. (<http://www.epa.gov/lead/pubs/renovation.htm>)

Damage Recovery and Construction

Damage recovery cleaning from water, fire, mold, bio-hazard or industrial accident requires an understanding across several disciplines to thoroughly clean and reconstruct the resulting damage, while preventing cross-contamination of previously unaffected areas. Containment and engineered controls can effectively isolate a contaminated work area while occupants can continue operations without impact or disruption.

Considering these conditions will add real value to your total cleaning management program.

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