

Microbiology of the Built Environment Literature Database Curation Process

Literature Search Methodology

A literature search was conducted in several phases from October 2010 – May 2013, emphasizing the environmental factors affecting the presence of bacteria, fungi and viruses in the indoor environment.

Methods:

Search methodology included database searches using Web of Science, reference recommendations from fellow researchers, and detailed follow-up of selected references. Initial searches focused on references from 2008 on, extending back to 2000, sometimes earlier, on follow-up or recommended references.

Phase One of the database searches focused on recent review articles, and developing appropriate search terms for more detailed searches. Phase Two focused on factors affecting microbes on indoor surfaces. The focus of Phase Three was on selected individual microbes, particularly those associated with health effects. A concluding phase sought to add any additional recent review articles and selected follow up.

Search Terms:

Summary of Web of Science database search terms:

Searches were a combination of terms from three main categories: microbe and related health terms, environmental factor terms, and building terms. A typical search might begin as “bacteria AND ‘environmental factors’ AND indoor”, then be refined as necessary. The search terms are detailed below. The more commonly used terms are listed first; those in parentheses were used to refine. Asterisk indicates truncation to pick up variants.

Microbe & Related Health Terms: microb*, bacteria*, virus*, fung*, biofilm*, bioaerosol*, mold, (pathogen*, contamin*, respiratory); actinomycetes, alternaria alternata, aspergillus, asthma, cladosporium, clostridium difficile, coronavirus, corynebacterium, enterics, influenza, legionella, penicillium, pneumonia, propionibacterium, pseudomonas aeruginosa, rhinovirus, staphylococcus aureus, streptococcus pneumonia.

Environmental Factor Terms: environment*, environmental factor*, humidity, moisture, temperature, season*, ventilation, pH, cleaning, infection control, survival, viability.

Building Terms: indoor, buildings, (sick building*), building/construction materials, furnishings, surfaces (env*/touch surfaces), substrate*, fomite*, plumbing, hospital*, (school*, office*/office building, facilities, daycare, homes/house*/residences/residential/dwellings.)

Additional Literature identification and retrieval

Methods:

1. Review of TOCs of publications frequently containing papers relevant to the topic and purpose of our search and curation.

2. Review of references cited in retrieved papers
3. Review of titles in the Microbiology of The Built Environment Mendeley collection
4. Searches using Google Scholar for authors whose publications have been retrieved or cited and review of the results

Criteria: title or abstract contains specific organism names of interest, mention of the indoor environment or indoor air quality or dust, AND description of environmental conditions, e.g., temperature, humidity, ventilation, ventilation system characteristics and operation, pH of water, or human presence or activities.