



# Topic Brief: Transmission of Coronavirus with Air Conditioning

**Date:** 5/5/2020

**Nomination Number:** 900

**Purpose:** This document summarizes the information addressing a nomination submitted on 3/22/2020 through the Effective Health Care Website. This information was used to inform the Evidence-based Practice Center (EPC) Program decisions about whether to produce an evidence report on the topic, and if so, what type of evidence report would be most suitable.

**Issue:** The nominator relates guidance about discontinuing the use of air conditioning to limit the spread of Coronavirus.

**Assessment:** Primary research and policy development is outside of the scope of the EPC Program. This is a rapidly growing area of research and much is yet unknown about all the details surrounding the transmission of SARS-CoV-2.

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## Background

- Widespread ongoing transmission of a respiratory illness caused by a novel (new) coronavirus (SARS-CoV-2) is occurring globally. The disease has been named “coronavirus disease 2019” (abbreviated “COVID-19”).
- The virus is thought to spread from person-to-person. Recent studies have shown that people who are infected and without symptoms may also play a role in the spread of COVID-19.<sup>1</sup>
- There was a report of an outbreak of COVID-19 in Wuhan, China associated with an air conditioner in a restaurant. The airflow direction was consistent with droplet transmission. The authors noted that strong airflow from the air conditioner could have propagated droplets.<sup>2</sup>
- There is concern about the role of a building’s ventilation systems in propagating transmission of SARS-CoV-2. In response strategies have been proposed including social distancing, higher outside air fractions, increased relative humidity, window ventilation, and light.<sup>3,4</sup>
- The use of filters has not been proposed as viral particles are too small to be contained by even the best HEPA and MERV filters<sup>3</sup>
- This is a rapidly growing area of research, and evidence being added daily to aid our understanding of the transmission of this novel Coronavirus, and how to prevent spread of the disease.

## Resources

We identified information that might be useful.

- European Centre for Disease Prevention and Control. Novel coronavirus disease 2019 (COVID-19) pandemic: increased transmission in the EU/EEA and the UK – sixth update – 12 March 2020. Stockholm: ECDC; 2020.

Selected resources for research studies

- LitCovid. This is a curated literature hub hosted by the US National Library of Medicine on research about Covid-19. <https://www.ncbi.nlm.nih.gov/research/coronavirus/>
- EPPI-Centre evidence map. This is a visual display of completed research studies on COVID-19. [http://eppi.ioe.ac.uk/COVID19\\_MAP/covid\\_map\\_v3.html](http://eppi.ioe.ac.uk/COVID19_MAP/covid_map_v3.html)

## References

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3. Dietz L, Horve PF, Coil DA, et al. 2019 Novel Coronavirus (COVID-19) Pandemic: Built Environment Considerations To Reduce Transmission. *mSystems.* 2020 Apr 7;5(2). doi: 10.1128/mSystems.00245-20. PMID: 32265315. <https://www.ncbi.nlm.nih.gov/pubmed/32265315>
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**Conflict of Interest:** None of the investigators have any affiliations or financial involvement that conflicts with the material presented in this report.

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