

# Are cleaning/disinfecting strategies effective to reduce COVID-19?

## Living Rapid Review

### Why is this important?

Cleaning and disinfecting are public health measures used for reducing the spread of and deaths from COVID-19. People, including decision makers, need to know if they are effective.

### What questions did we want to answer?

We wanted to answer 3 main questions:

1. Which cleaning and disinfecting products and strategies should we use to reduce the spread, related deaths and other consequences of COVID-19 in community based settings?
2. What are the best cleaning/disinfecting products to eliminate the virus from common surfaces?
3. If there is not enough information to answer questions 1 and 2, what should be investigated related to this issue?

## What did we do?

- We searched five databases for all the studies we could find in English between 01/01/2020 and 03/14/2023 to answer our questions.
- We reviewed 1321 studies, excluded those that didn't answer our questions and kept 15 studies that were included in our report.
- We evaluated the Risk of Bias (RoB) of these studies (i.e how trustworthy or reliable the findings of a study are, based on the study's design, conduct, and reporting of possible factors that could influence the results in a particular direction, and how much confidence we can place in the study's conclusions).

### To keep in mind:

- Some studies took place in the real world, where people can do many other things simultaneously to reduce COVID-19 risk (e.g. using masks). Thus, it is challenging to identify the impact of cleaning and disinfecting alone.
- We used tools for RoB assessments that were designed for other purposes (clinical studies) and we adjusted them for studies relevant to public-health programs, services and measures and, health-system arrangements.
- In vitro studies do not address "real-life" effects, because they are conducted in labs, far from the community setting.

## What did we find?

- We only found one "real-life" study that looked at how well cleaning and disinfecting products/strategies reduce the spread of the virus in community settings.
- We did not find any study that looked at if these strategies in the community prevent being hospitalized in an Intensive Care Unit, requiring mechanical ventilation, or death.
- We found 14 In Vitro studies that evaluated some cleaning and disinfecting products on surfaces, but this is not "real-life" setting.

## SARS-CoV-2 transmission, deaths and complications

### Cleaning/disinfecting product or strategy

Using Chlorine or Ethanol products daily vs less frequently to clean household surfaces.

### Results

For family members living with a sick person, the use of these disinfectants daily, reduced the household transmission of the virus. more than for family members who used these products less often.

# SARS-CoV-2 elimination/deactivation

Cleaning/disinfecting product or strategy (contact time required)	Surface	Results
<ul style="list-style-type: none"> <li>● Virusend™ (1 minute)</li> <li>● 0.5% w/v quaternary ammonium (10 minutes)</li> <li>● C360™ by spray method (2 minutes)</li> <li>● Bleach™ by spray method (10 minutes)</li> <li>● 0.39% peroxide by spray method (30 seconds)</li> <li>● 50% and 70% ethanol (1 minute)</li> <li>● 1000 ppm sodium hypochlorite (1 minute)</li> <li>● Really high concentrations of gaseous ozone (60 minutes)</li> </ul>	Stainless steel	Virus can be eliminated
<ul style="list-style-type: none"> <li>● 0.019% w/w QAC (1.75 minutes)</li> <li>● 0.096% w/w QAC (5 minutes)</li> <li>● 0.5% w/v quaternary ammonium (10 minutes)</li> <li>● 2.4% w/w citric acid (30 seconds)</li> <li>● 50% Ethanol/ 0.082% QAC (1 minute)</li> <li>● 50% and 70% ethanol (1 minute)</li> <li>● 500 ppm sodium hypochlorite (5 minutes)</li> <li>● 1000 ppm sodium hypochlorite (1 minute)</li> <li>● Firebird F130™ (1 minute)</li> <li>● Really high concentrations of gaseous ozone (60 minutes)</li> </ul>	Glass	Virus can be eliminated
<ul style="list-style-type: none"> <li>● 8,700 ppm hypochlorous acid fogging (16 minutes)</li> <li>● 56,400 ppm hydrogen peroxide fogging (16 minutes)</li> </ul>	Plastic plates	Virus can be eliminated
<ul style="list-style-type: none"> <li>● 50% and 70% ethanol (1 minute)</li> <li>● 500 ppm sodium hypochlorite (5 minutes)</li> <li>● 1000 ppm sodium hypochlorite (5 minutes)</li> </ul>	Polypropylene	Virus can be eliminated
<ul style="list-style-type: none"> <li>● Really high concentrations of gaseous ozone (60 minutes)</li> </ul>	Polystyrene	Virus can be eliminated
<ul style="list-style-type: none"> <li>● 70% ethanol (5 minutes)</li> </ul>	Low-density polyethylene	Virus can be eliminated

## How confident are we in the results?

- Our confidence in these findings is limited as there was only one study conducted in a “real-life” setting, and we identified concerns with this study in our RoB assessment.
- The in vitro studies do not address “real-life effects”.

## About this summary

This brief offers a high-level summary of key findings from the COVID-19 Living Evidence Synthesis 18.1: Effectiveness of Cleaning and Disinfecting for reducing transmission of COVID-19 in non-health care community-based settings. See the most up-to-date version of this brief, LES 18.1 and other LESs in the suite on the COVID-END website.

