

PUBLIC HEALTH EMERGENCY Response for Retail Store Managers



BACKGROUND

In 2019, a new strain of the coronavirus was discovered. The disease associated with this new strain is known as COVID-19, and symptoms of the illness can range from fever and cough to more serious symptoms, such as pneumonia, which could be fatal.

To prevent infection from spreading, experts from the World Health Organization recommend proper hand-washing, covering your mouth and nose when coughing and sneezing, and avoiding close contact with anyone showing symptoms of respiratory illness.

WHAT ARE THE RISKS ASSOCIATED WITH RETAIL STORES DURING PUBLIC HEALTH EMERGENCIES?

Retail stores are some of the few establishments that remain open during public health emergencies. Consumers need to purchase essential supplies, including food and water. The known transmission routes of the new coronavirus are through either direct or indirect person-to-person contact.

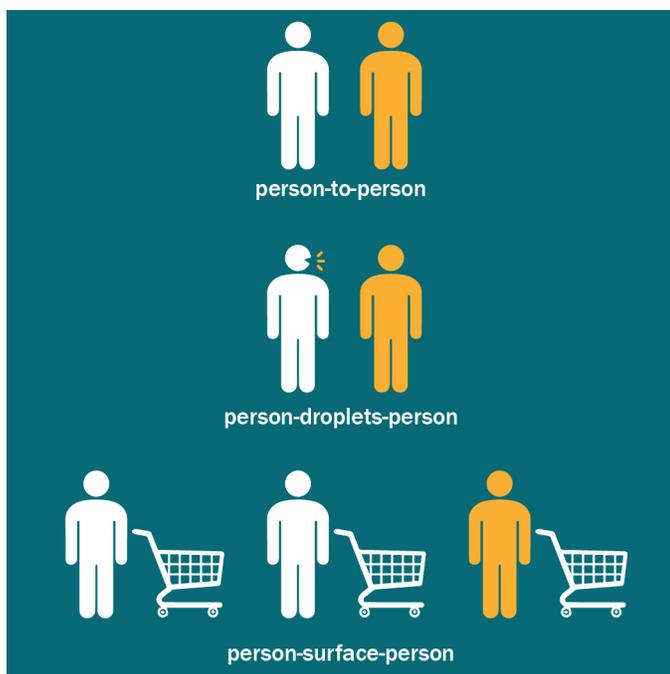


Fig 1. Transmission routes of the new coronavirus

Retail stores are normally densely populated, so there are plenty of opportunities for person-to-person contact among both employees and customers. Therefore, the managers of retail stores that remain open during public health emergencies must take extra precautions to prevent the virus from spreading.

IDENTIFY THE HIGH-RISK AREAS IN YOUR STORE

Because of the known mode of transmission, areas with a denser population of employees and customers have higher risks of transmission compared to lower traffic areas. For example, the produce area usually has more people than the pet supply area. High risk areas are specific to each store. Therefore, it is critical to identify the high-risk areas in your store and design a cleaning and disinfection plan accordingly.

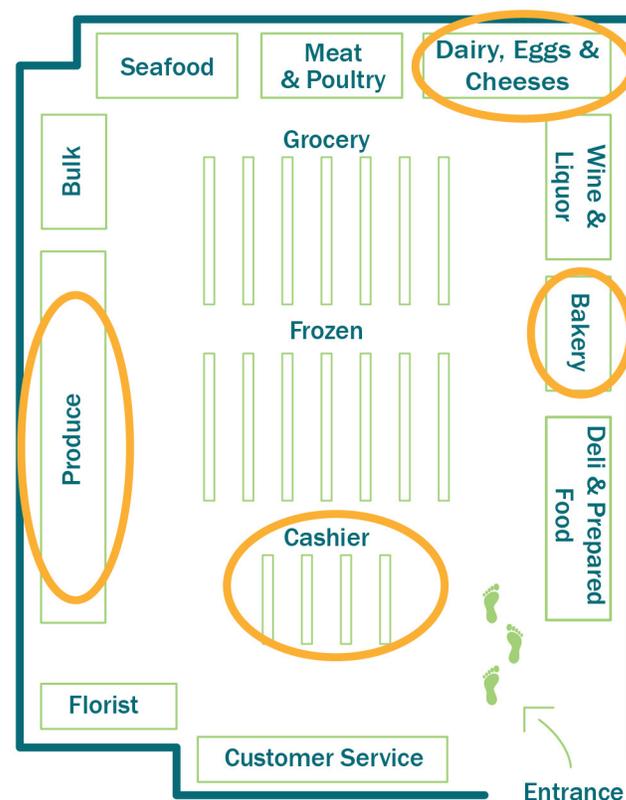


Fig. 2 Example of a store map and circled high-risk areas

The easiest way to identify the higher traffic areas is to count the number of people (employees and customers) in each area during a 30-minute period. Security cameras can be used to avoid person-to-person contact. If the stores have sales data, the managers could analyze the items sold most often during a day or a week to determine the higher traffic areas.

The high-risk areas for customers of most stores may be shopping cart distribution areas, checkout areas or the fresh produce, bakery, dairy, egg and cheese sections. Employees' high-risk areas may include the food preparation room and employee break room areas. Lower risk areas may include the florist, pet supply, greeting card and gift areas.

Specific items in high-risk areas may include the cooler/freezer door handles, shopping cart handles, shelves, tables and chairs in sitting areas, and the credit card swipe machine.

IS A HIGHER CONCENTRATION OF THE DISINFECTANT BETTER?

Always follow the manufacturer's recommendations on the label for disinfectant concentrations. A more concentrated disinfectant does not necessarily result in a more efficient elimination of pathogens. The recommended concentrations by the manufacturer and regulatory agencies are set to achieve the optimal pathogen reduction. In addition, higher concentrations of disinfectant can lead to unsafe practices to the user.

For example, sodium hypochlorite (bleach) at a high concentration will result in an increase of pH. Studies have shown that bleach takes a longer time to kill viruses and bacteria at a higher pH. On the other hand, ethanol (alcohol) should be applied at a 70% concentration. Alcohol deactivates bacteria/ viruses because it can denature the proteins. Proteins are denatured more quickly when there is a certain amount of water present.

Always remember to check the disinfectant label for the recommended concentration and contact time.

HOW TO SAFELY USE ALCOHOL TO DISINFECT?

- A 70% alcohol solution can be safely used as disinfectant if spraying surfaces within a close range.
- Do not mix alcohol with other disinfectants, such as bleach.
- Do not use near an open flame.
- Do not spray into the air, especially in a less ventilated area.

WHAT OTHER DISINFECTANTS CAN BE USED?

The American Chemistry Council's Center for Biocide Chemistries has compiled a list of products that have been preapproved by the U.S. Environmental Protection Agency (EPA) for use against emerging enveloped viruses and can be used during the 2019 novel coronavirus (COVID-19) outbreak. This product list is not exhaustive but can be used by business owners, health professionals and the public to identify products suitable for use during the COVID-19 outbreak. To access the complete list of approved disinfectants, visit the [American Chemistry Council website \(Americanchemistry.com\)](https://www.americanchemistry.com).

Table 1. Recommended concentrations to disinfect NON-FOOD CONTACT surfaces for COVID-19.

Disinfectant	Recommended Concentration	Volume to prepare 1 gallon
Chlorine (assuming 5.25% sodium hypochlorite in chlorine bleach)	800 ppm*	1/3 cup
Alcohol (using 95% ethyl alcohol)	70%	3 quarts
Quats	800 ppm*	According to manufacturer instruction

*ppm = parts per million

Recommended preparation is based on the most common concentration available. Base your calculation on your disinfectant concentration.



Fig. 3 How to prepare disinfectant solution.

HOW FREQUENTLY SHOULD YOU DISINFECT THE STORE?

Higher risk (higher traffic) areas must be disinfected more often than the lower risk ones. Depending on the number of your employees and

customers, you may want to disinfect the high-risk areas every four hours or as frequently as needed. For low risk areas, you need to disinfect before restocking or at least once a day.

HOW TO PREPARE SITTING AREAS FOR EMPLOYEES AND CUSTOMERS

The recommended safe distance between people is 6 feet, according to the Centers for Disease Control. If you have a sitting area in your store, make sure you take out some of the chairs to allow 6 feet between each seat. If possible, leave one chair per table to minimize person-to-person contact. Post signs at the sitting area to remind employees or customers to keep a 6-foot distance while sitting. Temporary dividers can also be used if the seats cannot be taken out.

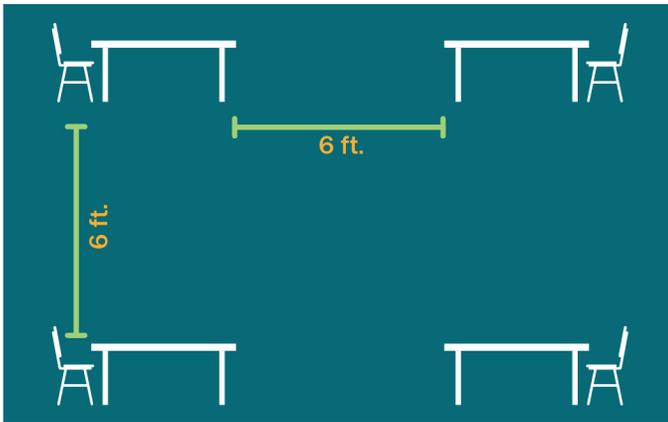


Fig.4 Example of sitting area with a safe distance

HOW TO MINIMIZE PERSON-TO-PERSON CONTACT IN THE STORE

Control customer flow. Allowing a certain number of customers to enter at a time can effectively reduce traffic within the store.

Encourage customers to use plastic bags when picking up fresh produce to minimize barehanded contact with foods. Make sure to disinfect the plastic bag rack frequently.

Post signs at the cashier or self-checkout stations to remind customers to keep a distance of 6 feet between one another when waiting in line.

Set up designated shopping hours for high-risk populations. For example, encourage the elderly to shop during early morning hours before crowds arrive.

REFERENCES

[American Chemistry Council. 2020. Novel Coronavirus \(COVID-19\)—Fighting Products.](#)

[Centers for Disease Control and Prevention \(CDC\). 2019. Coronavirus.](#)

[Centers for Disease Control and Prevention \(CDC\). 2008. Guideline for Disinfection and Sterilization in Healthcare Facilities.](#)

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PUB3722 (Online Only) 03/20

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