STUDIES & ARTICLES

Impact of Routine Use of a Spray Formulation of Bleach

On Clostridium difficile Spore Contamination in Non–C. difficile Infection Rooms

Summary of the Following Article by Clorox

Ng Wong YK, Alhmidi H, Mana TSC, Cadnum JL, Jencson, Donskey CJ, "Impact of routine use of a spray formulation of bleach on *Clostridium difficile* spore contamination in non-*C. difficile* infection rooms" American Journal of Infection Control, 2019 Jan 31. pii: S0196-6553(18)31205-7. doi: 10.1016/j.ajic.2018.12.023.

Objective

To measure *C. difficile* spore contamination in non-*C. difficile* infection (CDI) patient rooms when a quaternary ammonium chloride disinfectant was used to clean, and test the hypothesis that routine use of Clorox Healthcare® Fuzion® Cleaner Disinfectant would reduce contamination.

Scope

In the Louis Stokes Cleveland Veterans Affairs Medical Center, prior to May 1, 2018, *C. difficile* spore and MRSA contamination on high-touch surfaces in the patient room and bathroom was measured in non-CDI rooms when a quaternary ammonium chloride (quat) disinfectant was used for postdischarge cleaning and disinfection. After May 1, 2018, non-CDI rooms were cleaned with Clorox Healthcare® Fuzion® Cleaner Disinfectant and *C. difficile* spore and MRSA contamination again measured. Ten EVS personnel were surveyed regarding their opinion of the spray bleach product in regard to odor and residue on surfaces. Because Fuzion® has a low sodium hypochlorite concentration (0.39%), its efficacy against *C. difficile* spores was measured along with two other sodium hypochlorite–based products, Clorox Healthcare® Bleach Germicidal Wipes (0.65% sodium hypochlorite), and Diversey Avert Sporicidal Disinfectant Cleaner (1.31% sodium hypochlorite) using the AOAC International Germicidal Spray Products as Disinfectants test (AOAC 961.02).[1]

Results

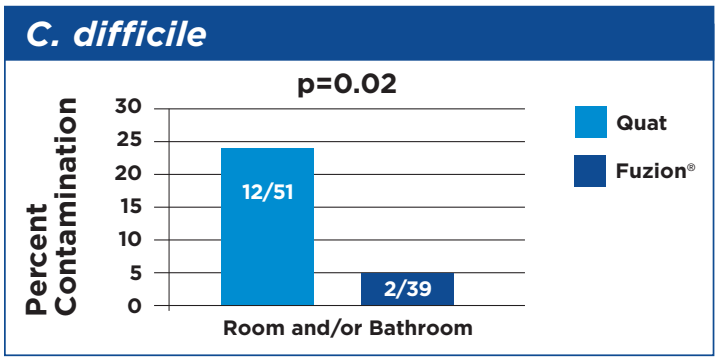
For *C. difficile* contamination, when Fuzion® was used there was a significant reduction in the proportion of rooms contaminated

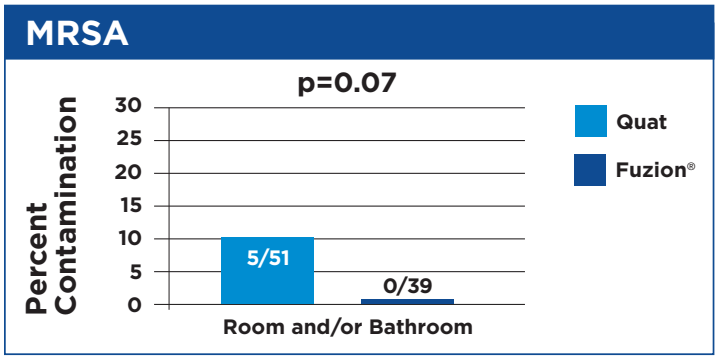
from 12/51 (26%) rooms and/or bathrooms with the quat disinfectant, to 2/39 (5%) with Fuzion® disinfectant (p=0.02).

For MRSA contamination, when the quat disinfectant was used, 5/51 rooms and/or bathrooms (10%) were contaminated. When Fuzion® was used, there was a trend towards a reduction in contamination (0/39; 0%, p=0.07), but the difference in contamination was not significant.

Of the 10 EVS personnel surveyed, all 10 noted that Fuzion® left less residue than the other bleach products, and that this was an advantage. Four of the 10 noted that Fuzion® had a more tolerable odor than the other products.

Each of the three products tested inactivated ≥6 log *C. difficile* spores at a 2-minute contact time.[1]





Discussion

The results of this study are consistent with other studies that have shown that non-CDI rooms can be contaminated with *C. difficile* spores.

Cleaning with a non-sporicidal disinfectant may transfer these spores from contaminated to clean sites.

The use of a disinfectant with efficacy against *C. difficile* spores likely accounts for the decrease in contamination. The improved coverage of surface area when using the spray may account for the trend towards a reduction in MRSA contamination.

The use of a fluorescent dye to evaluate cleaning practice was not done. This is because pre-cleaning was only performed on areas with visible soil, and in line with label instructions, the surface was not always wiped after application of Fuzion®. Surfaces can also be left to dry.

Conclusion

This study showed that the use of sporicidal disinfectants for all postdischarge room disinfection might be helpful in reducing the risk for *C. difficile* transmission from contaminated surfaces.

1. This test method is not the same as the EPA-required method for testing spray formulas against *C. difficile* spores

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