

# Can the environmental microbial burden be reduced without increasing staffing resources?

Mary Cole RN, MS, CNRN, CCRN, SCRN, CIC The Highlands at Brighton Rochester, NY

## Abstract

Environmental infection transmission is a perennial problem in long-term care facilities (LTCFs), exacerbated by shared living arrangements, residents with cognitive deficits, staffing shortages, and suboptimal cleaning and disinfection. This study evaluates the impact of Dry Hydrogen Peroxide (DHP), as a supplement to manual decontamination, on bioburden within a LTCF neurobehavioral unit (NBU).

## Objectives

- Reduce bioburden in the neurobehavioral unit
- Implement a strategy that is passive
- Implement an infection prevention strategy that does not depend on staff and resident compliance

## Study Design

This is a prospective environmental cohort study utilizing DHP in a 15 bed LTCF NBU. 264 surface microbial samples (44 per time point) were collected in 8 patient rooms and 2 communal areas on 3 days pre-DHP deployment and on days 14, 28 & 55 post-DHP deployment. The microbial reduction was evaluated by characterizing bioburden as total colony-forming units in each sampling site pre- and post-DHP deployment. Multivariate regression was used to analyze microbial reductions associated with DHP exposure, controlling for sample and treatment sites.

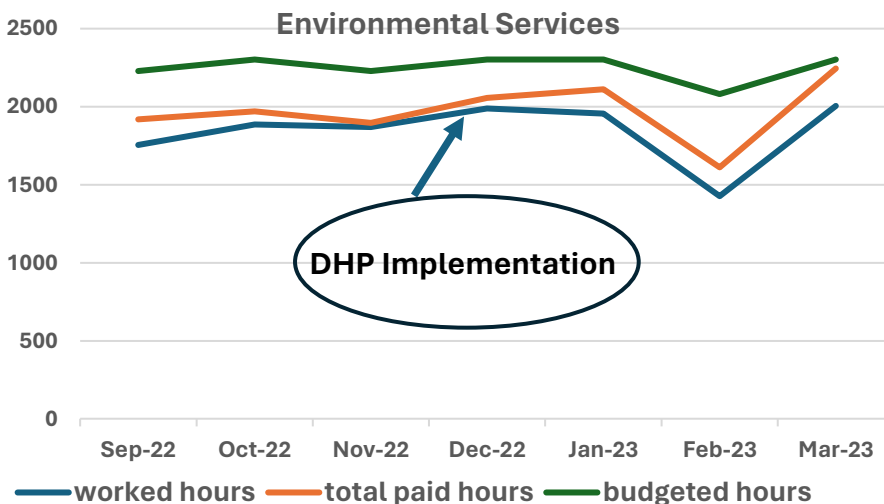
## Conclusion

A statistically significant relationship was detected between exposure to DHP and surface microbial load ( $p < 0.00001$ ).

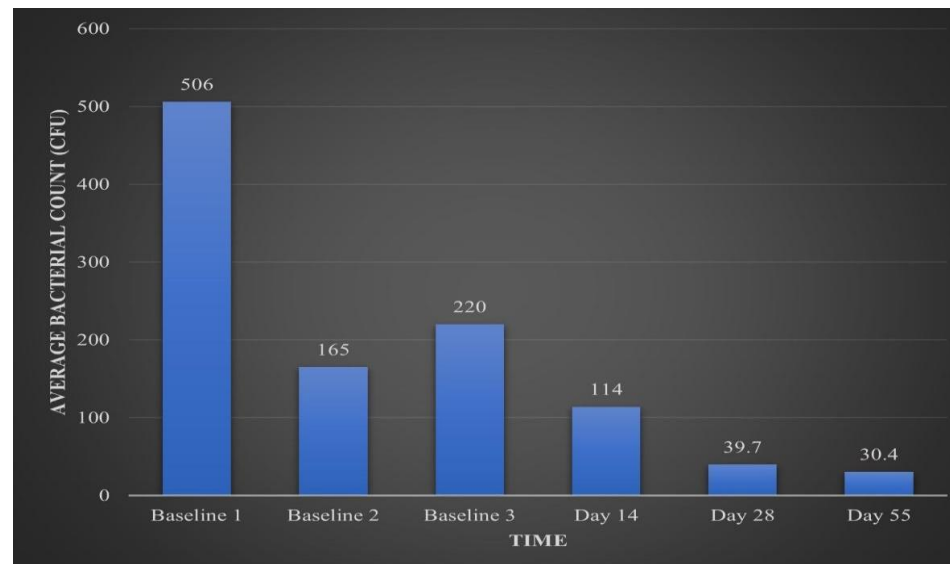
This reduction in microbial burden was achieved in the setting of significant staff shortages in the environmental services department.

## Study Setting

Environmental services staffing during the pre-, post, and study period.



## Results



## References

