

Productivity Analysis of an Aerosolized Hydrogen Peroxide Dry Fogging Disinfection System Integrated within a Smart Hospital Ecosystem

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Background: Although effective environmental disinfection is a core component of a comprehensive infection prevention strategy, incomplete disinfection, safety of personnel, cost, and labor requirements have limited adoption of newer technologies. An automated, dry hydrogen peroxide technology designed to overcome these limitations is now available, offering a more clinically and economically effective solution. This novel technology is available in an affordable subscription model and provides automated fogging via micron-sized hydrogen peroxide to cover the entire room, ensuring optimal disinfection of all surfaces while reducing staff workload. We sought to perform a productivity analysis of this new system in a typical hospital setting leveraging integration within data platforms to provide historical data and auditable records.

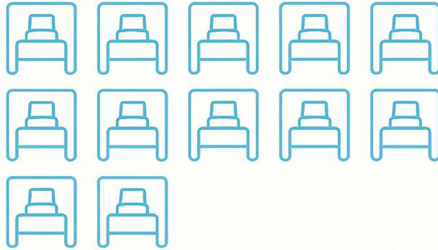
Methods: We obtained average data from 2023 covering a total of 33 locations showing a room turnaround time of 132 minutes prior to implementing any streamlining systems. Using this value as the standard productivity of one environmental services (EVS) team member for complete turnover of a patient room (inclusive of disinfection, linen change, waste removal, etc.), and a 12-hour shift, with a 1-hour break (11-hour workday), the standard productivity is the complete turnover of 12 rooms per shift. Disinfection times using automated dry hydrogen peroxide fogging (Breezy Med, Albuquerque, NM) have been reported to be reduced by 10 to 35 minutes per room.

Results: Using standard disinfection requires 50 minutes for 3 locations. With a range from 10 to 35 minutes saved per room utilizing automated dry hydrogen peroxide fogging, as many as 420 additional minutes become available across a standard productivity of 12 rooms. As a result, 3 additional rooms can be cleaned during a 12-hour shift utilizing automated dry hydrogen peroxide fogging.

Conclusions: A new aerosolized hydrogen peroxide disinfecting dry-fogger system has the potential to offer a substantial EVS productivity improvement in a typical hospital setting.

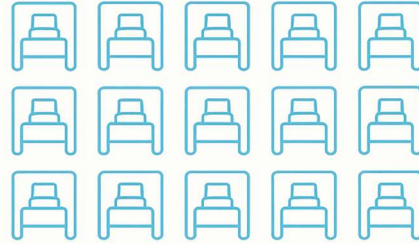
EVS Productivity with Automated aHP Disinfection

Standard Disinfection



~132 min
turnaround time
per room

With aHP Fogging



~ 98–122 min
turnaround time
(10–35 min saved per room)

+420 minutes saved across 12 rooms



+3 additional rooms
per shift

Notes: Average data from 2023 covering a total of 33 locations showing a room turnaround time of 132 minutes obtained from Bedwatch, LLC, Austin, TX