Comparing the Clinical Effectiveness of Surface Disinfectants
Jennifer Perkins, BA, MBA · JoAnn Ferguson, RN, BAN, · Anita Thomasser, BS, Philip C. Carling, MD.

While disinfectant cleaning of near-patient surfaces has been an accepted healthcare standard for decades, the relative efficacy of disinfectant chemistries has not been studied in clinical use.

Methods
An EPA-registered quaternary ammonium disinfectant (QAC) and a novel EPA-registered sporicidal disinfectant (ND) with peracetic acid/hydrogen peroxide as the active ingredients were evaluated on a 48 bed clinical care unit as part of routine cleaning. Twelve high touch surfaces recommended by the CDC toolkit Options for Evaluating Environmental Cleaning were evaluated. Prior to cleaning each surface was dip slide cultured and marked with a fluorescent marker (DAZO™). After the room was discharge cleaned each surface was again cultured and the presence or removal of the test soil noted. Surfaces without detectable aerobic bacteria prior to cleaning were eliminated from analysis. Following cleaning, only surfaces with no detectable bacterial burden (0 CFU) were defined as effectively cleaned.

Conclusions
Although the clinical relevance of the finding of a highly significantly greater effectiveness of the ND in comparison to the QAC warrants verification in different settings, we believe that this study design has significant potential for effectively defining the relative clinical efficacy of disinfectant formulations as well as materials such as microfiber cloth, disposable disinfectant wipes, and even detergents in order to objectively clarify best practices for decreasing the risk of pathogen transmission from contaminated surfaces to patients through the use of various cleaning modalities and chemistries.