



## Mayo Clinic Study Reports 47% Reduction in C.diff Infection Rates Using Pulsed Xenon UV Room Disinfection

**San Antonio – February 20, 2019** – *Clostridioides difficile* (C.diff) is a serious and highly contagious intestinal infection that can cause diarrhea, colitis and even death. Even with the world's most robust infection prevention strategy and protocols, the Mayo Clinic wanted to further reduce its patients' risk for contracting C. diff and conducted a controlled study to evaluate the effectiveness of Xenex Disinfection Systems' pulsed xenon ultraviolet (UV) light room disinfection technology. The study, published in the [American Journal of Infection Control](#), found that adding pulsed xenon UV disinfection to the hospital's disinfection efforts resulted in a 47% reduction in C.diff infection rates on the intervention units that has been sustained for two years. In addition, the facility saw an increase in patient satisfaction scores for environmental cleanliness and a 52% reduction in Vancomycin-resistant enterococci (VRE) infection rates.

Based on the significant C.diff infection rate reductions in the intervention units, the Mayo Clinic expanded pulsed xenon UV room disinfection to 14 additional hospital units with high rates of C. diff infection utilizing 12 robots. This wide-scale implementation resulted in a facility-wide reduction in its Standardized Infection Rate (SIR) from 0.774 to 0.571. SIR rates are used by the Centers for Medicare & Medicaid Services (CMS) to calculate hospital reimbursement.

Many hospital patients, especially those on antibiotics, are susceptible to C. diff, which can live for up to five months on surfaces in the hospital. A person with C. diff may contaminate their hospital room and bathroom, leaving C. diff spores on the walls, handles and other high-touch surfaces. These spores can be easily transferred to the next patient or healthcare worker in that room. For this study, the Mayo Clinic deployed two Xenex LightStrike™ Germ-Zapping Robots™ that utilize intense pulsed xenon UV light to quickly destroy pathogens like C.diff and VRE that may be lurking on high touch surfaces in a room, such as bedrails, tray tables and doorknobs. The robot is easy to use and does not require warm-up or cool-down time, so it's easily transported from room to room.

In the controlled trial, the first of its kind using pulsed xenon UV disinfection technology, three hospital units (two hematology and bone marrow transplant units and one medical-surgical unit) were designated for pulsed xenon UV intervention, and three units with similar patient populations served as control units. Because of the high C.diff infection rates, all patient rooms on the targeted units were cleaned with bleach daily and at terminal cleaning. In addition to tracking C.diff infection rates, hand hygiene, isolation compliance, and antimicrobial usage were followed on all the units. The only difference in the infection control programs between the controlled units and intervention units was the addition of LightStrike pulsed xenon UV disinfection. LightStrike robots were used after terminal cleaning in 85% of all discharges on the targeted intervention units.

"The Mayo Clinic has a world class infection prevention program that is extremely well-run and well monitored. Their success in reducing C. diff rates is strong evidence that pulsed xenon UV room disinfection can be a very effective tool in a hospital's infection prevention bundle," said Dr. Mark Stibich, Chief Scientific Officer at Xenex. "This is very exciting research for several reasons. First, the hospital achieved and sustained lower C. diff rates. Second, hospitals may be confused about the different kinds of UV technologies and their effectiveness, especially after a previous study using mercury UV devices did not show a reduction in C. diff infection rates. This data – and the story of



how the Mayo Clinic achieved success in a controlled trial – demonstrates that Xenex’s pulsed xenon UV disinfection technology should be added to the infection prevention bundle as standard of care to enhance patient safety.”

#### About Xenex

Xenex's patented Full Spectrum™ pulsed xenon UV room disinfection system is used for the advanced disinfection of healthcare facilities. Due to its speed and ease of use, the Xenex system has proven to integrate smoothly into hospital cleaning operations. Xenex’s mission is to save lives and reduce suffering by destroying the deadly microorganisms that cause hospital acquired infections (HAIs). The company is backed by well-known investors that include EW Healthcare Partners, Piper Jaffray Merchant Services, Malin Corporation, Battery Ventures, Tectonic Ventures, Targeted Technology Fund II and RK Ventures. For more information, visit [Xenex.com](http://Xenex.com).

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