microbial bioburden and abated pathogen acquisition demonstrate the positive impact that AP continuous disinfection technology can have on the environment and patient outcomes, without additional skilled labor or increases in cleaning and disinfection practices.

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Assessing the Impact of Ultraviolet Light Disinfection on Energy Use at Stanford Health Care

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Introduction: The healthcare sector contributes significantly to global greenhouse gas (GHG) emissions, accounting for 8.5% of the total emissions in the United States alone. Infection control practices designed to prevent disease transmission contribute to this substantial carbon footprint. These practices, which include enhanced ventilation requirements, extensive sterilization processes, and laundry services, inherently increase energy consumption and GHG emissions. The approach to making healthcare more sustainable has been multipronged, including initiatives to reduce waste and energy use. We explored environmental cleaning practices and the energy use associated with ultraviolent (UV) light disinfection. **Methods:** A retrospective analysis was conducted on the energy consumption of three different UV light disinfection machines used at Stanford Health Care from September 2023 to August 2024. Annual run time data was obtained from vendor-provided logs, and energy use was calculated using the equipment wattage specifications provided with each machine. **Results:** We found that UV light disinfection utilized approximately 7,300 kWh constituting less than 1% of Stanford Health Care total energy use for the period. This energy consumption equates to the charge required for 3.5 round trips from San Francisco to New York City in an electric vehicle. **Discussion:** UV light has been widely used in healthcare over the last decade. Recent data suggests that there may be no additional benefit to UV light disinfection when other enhanced cleaning methods, such as sporicidal cleaners, are utilized. Therefore, using UV light in addition to sporicidal cleaners may be redundant. Infection prevention practices often incorporate redundancies given the dependence on human behavior and the high consequences of practice failures. As the healthcare industry continues to work towards reducing greenhouse gas emissions it will be important to consider all energy reductions and any redundancies in practices. In the future, a life cycle analysis could be conducted to compare UV light disinfection and sporicidal cleaning methods to evaluate each practice's impact on sustainability efforts. Our evaluation showed that UV light disinfection results in modest energy usage reductions. However, as the healthcare industry continues to work towards reducing greenhouse gas emissions it will be important to consider all energy reductions and any redundancies in practices.

Table 1: Energy use of Ultraviolet light disinfection machines from September 1, 2023 – August 30, 2024

	Annual Run Time (minutes)	Wattage	Annual kwh
UV Machine Type 1	156,721	1800	4,702
UV Machine Type 2	74,606	1800	2,238
UV Machine Type 3	17,976	1440	431
		Total kwh Usage	7,371

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Endoscopic Weekly and Carbapenem-Resistant Organisms Surveillance Program Implementation and Assessment between 2019 and 2024

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Background: The risk of bacterial transmission through gastrointestinal endoscopes remains a critical concern in healthcare-associated infections, driven by the complex design of endoscopes and potential lapses in reprocessing protocols. Contaminated endoscopes can serve as vectors for multidrug-resistant organisms, posing significant threats to patient safety. Current U.S. guidelines for endoscope reprocessing and infection control do not mandate routine surveillance sampling; however, select facilities have successfully adopted routine surveillance cultures to monitor reprocessing efficacy. The Centers for Disease Control and Prevention (CDC) has published protocols to support facilities choosing to implement such practices, emphasizing the importance of identifying persistent transmission risks. **Methods:** This retrospective study was conducted at the University of Kentucky Healthcare (UKHC), a 1,086-bed academic medical center, from January 1, 2019, to June 30, 2024. UKHC implemented a surveillance program in July 2016 targeting endoscopic retrograde cholangiopancreatography (ERCP), esophagogastroduodenoscopy (EGD), endoscopic ultrasound (EUS), and colonoscopy endoscopes. Weekly cultures were performed on ERCP scopes, while targeted cultures were conducted on all four scope types used for patients colonized with carbapenem-resistant organisms (CRO). Following manufacturer instructions for use (IFU), post-reprocessing cultures were performed, and pathogens were categorized as concerning or non-concerning based on CDC protocols. Manual chart reviews identified CRO-colonized patients, and match rates were calculated by comparing endoscope culture results with patient isolates. **Results:** A total of 163 ERCP scopes were cultured, comprising 94 from weekly surveillance and 69 from CRO-targeted surveillance (Figure 1). Weekly surveillance yielded a 9.6% (9/94) positivity rate, while CRO-targeted surveillance showed an 8.7% (6/69) positivity rate. Among six positive samples, no matching CRO was identified. Among 189 EGD scopes subjected to CRO-targeted surveillance, the positivity rate was 25.9% (49/189), with a 4.1% (2/49) match rate to patient isolates. For 27 EUS scopes, the positivity rate was 11.1% (3/27), with a 33.3% (1/3) match rate. Among 59 colonoscopy scopes, the positivity rate was 5.1% (3/59), with no matches to patient isolates. **Conclusions:** The UKHC surveillance program highlights ongoing risks of bacterial transmission despite adherence to manufacturer-recommended reprocessing protocols. Scopes yielding concerning organisms underwent additional reprocessing to mitigate patient risk. All scopes with positive organisms after the second reprocessing were sent back to the manufacturer. Surveillance programs provide valuable insights into disinfection efficacy, helping to identify gaps and guide infection prevention strategies. Further refinement and