Clinicians disinfect their hands continuously. What about their devices and technology?

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Health systems all over the nation are continuously seeking new and creative ways to improve patient care and efficiency while reducing costs and waste. This trend, compounded with a shortage of staff, has resulted in an environment where caregivers and hospital support staff have more and more demands on their time. Over the years, hospital protocols around hand hygiene and environmental disinfection compliance have had increased attention.   In American hospitals alone, the Center for Disease Control (CDC) estimates that Healthcare-acquired Infections (HAIs) are associated with 72,000 deaths each year. Of particular interest is the disinfection of hard to clean, high-touch devices and surfaces, which is often a best effort endeavor due to workflow and resource constraints. What is needed to bolster compliance is an automated surface disinfection platform with an audit trail that does not interfere with clinical workflows.

A number of products have attempted to find a solution that can automate surface disinfection, but many have failed to leave the clinical workflow intact due to the nature and power level of the Ultraviolet Light that they emit. Often, the level of energy emitted during use requires that the UV lamp be in an enclosed container. Emerging technologies that rely on low power UV-C have been extremely effective as a part of the automation process. By leveraging small UV-C units, such as the one developed by UV Angel, and deploying these throughout, hospitals can supplement existing single point in time solutions.   This platform can target and disinfect surfaces 24x7, without disrupting workflow, requiring manual intervention, or hurting productivity and efficiency. These types of solutions increase productivity, require little effort to use, and are able to deliver the required disinfection to target areas consistently and effectively. There is also added bonus of an audit trail that illustrates how often the UV-C light was engaged over time on each surface.

Pathogens are transmitted through touching devices.

When introducing a technology, like an automated, localized UV-C device into a hospital, it is crucial to strike a balance between the ease of implementation and security. IT departments do not have the resources to re-engineer IOT solutions, counting on vendors to provide a simple integration. In order for the various UV-C units to communicate to a central location, they need to be networked. Ideally these can rely on Wi-Fi connectivity, a cloud-based database system, and do not require constant access to the internal hospital network. The units can capture the required data locally and transmit it over a Wi-Fi connection that is limited to HTTP Internet access only. Security of data and transmission using industry leading products with built in encryption like Amazon Web Services is ideal.

One of the products that has caught my attention is the unit developed by the UV Angel team. It is purpose built and engineered to be network and workflow friendly from the ground up. It meets all of the requirements that were covered in this article and as an added bonus, stores data in a semi-unstructured format. This allows for reports and information changes to be flexible upon request.

In conclusion, automating and monitoring surface disinfection in a hospital can complement other disinfection programs, allow for better insight, and address surfaces that need it most. Ultimately this can help caregivers deliver safer, more effective care without impacting their productivity and allow for an audit trail to prove alignment with regulatory compliance mandates.