



## CASE STUDY

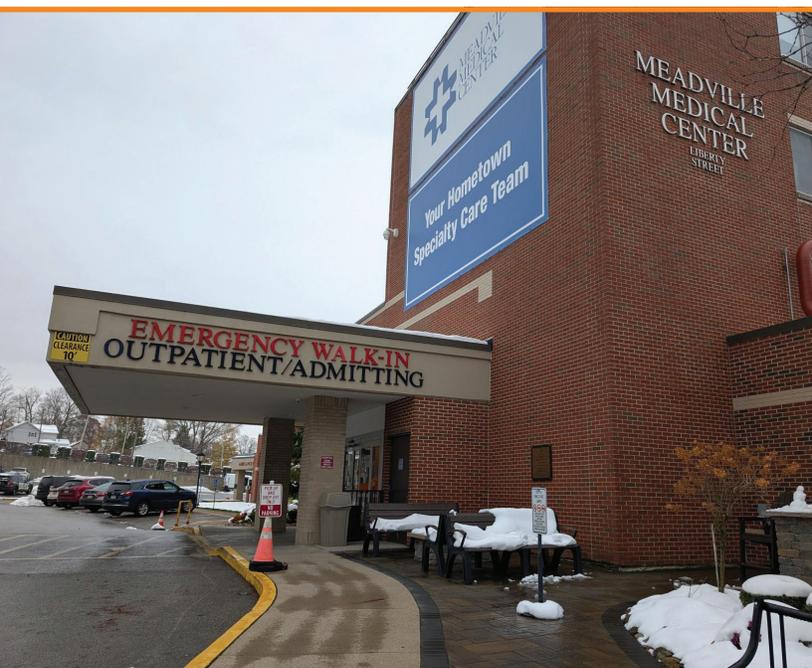
# Reducing Patient Risk in the ER Waiting Room at Meadville Medical Center

Implementing Visium Far-UVC fixtures reduces microbial load on high-touch surfaces.

## OVERVIEW

Meadville Medical Center (MMC) is a dedicated hospital serving 200,000 people in Crawford County and the outlying Northwest Pennsylvania community. As a trusted community partner, MMC is tirelessly committed to the highest of patient care, earning them recognition as one of just 10 hospitals in PA listed among the Top 5% in the country for patient safety.

Meadville Medical Center sought solutions to reduce bioburden on surfaces and in the air to continue leading the field in patient safety and outcomes. Visium Far-UVC was installed in the MMC Emergency Room, which provides care for approximately 38,000 patients annually.





## THE CHALLENGE

Traditional terminal cleaning methods leave gaps in sanitation between cleaning sessions, allowing germs to accumulate on high-touch surfaces. With the addition of Far-UVC air and surface treatment, bioaerosols and surface microbes can be inactivated continuously, leading to lower risk interactions for patients and staff.

## OUR SOLUTION

### Visium Far-UVC

Eleven Visium devices were installed across the Emergency Room waiting area, focusing on intake areas and where patients are seated. Far-UVC continuously inactivates bioaerosols and surface bioburden, covering 525 sqft of active space. Devices were recessed into the ceiling for seamless integration within the space.



## KEY FEATURES



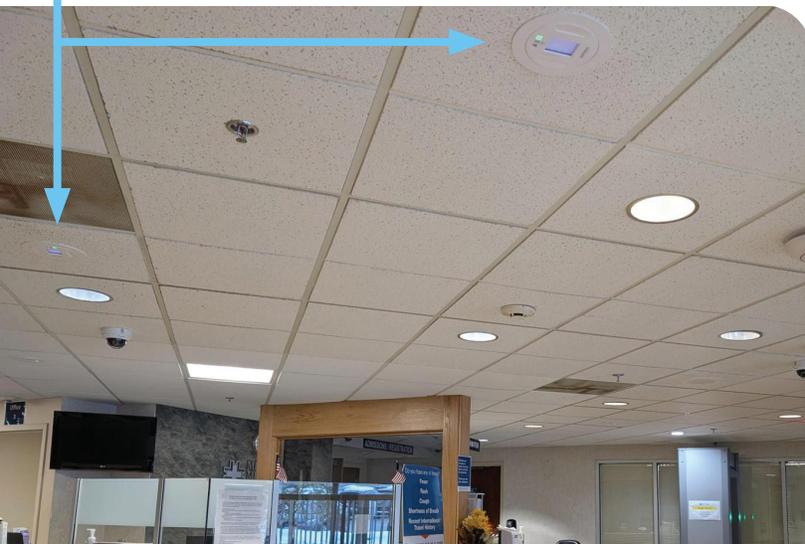
Continuous air and surface sanitization all day and night while activated



Far-UVC is proven to reduce pathogens safely in occupied spaces



Visium app bridges IoT connectivity for real-time monitoring via mobile devices



## Third-Party Test Results

High-touch surfaces in the waiting room were sampled to assess changes in bioburden before and after Visium use. Baseline samples were collected from the same surfaces on the same day while patients and staff were actively using the space. Following baseline sampling, Visium fixtures were turned on, and repeat samples were collected six hours later. All samples were submitted to an independent laboratory, Culturewell, for quantification.

### Fewer Bacteria

Results showed that Visium reduced bacterial abundance on high-touch surfaces by up to 99% compared to conditions without Far-UVC. On average, the waiting room experienced a 63% reduction in overall bioburden. Location-specific changes in colony-forming units (CFUs) are illustrated in the room diagram. The largest individual reductions were observed on a door handle and a chair in the waiting room. While some locations, such as the Security Reception area, showed higher CFUs after sampling, pathogen risk was lower, underscoring that CFU counts alone do not fully reflect surface safety. Reductions in high-risk pathogens indicate surfaces were safer for contact with Visium use.

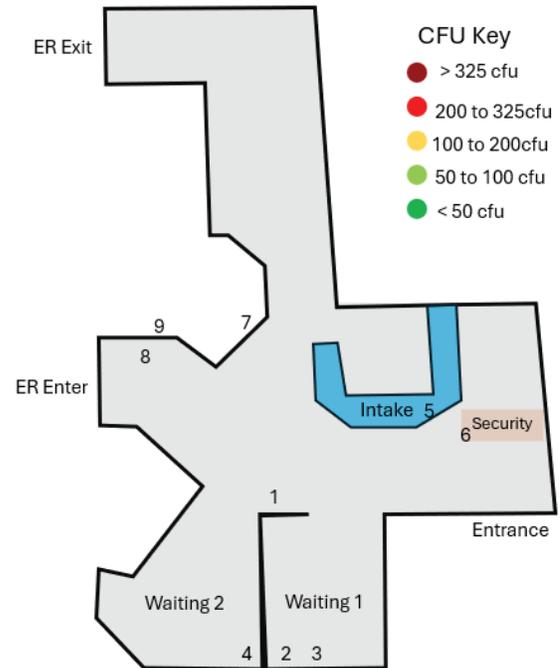
### High-Risk Pathogens Reduced

In addition to lowering total bioburden, Visium inactivated several high-risk pathogens on sampled surfaces. Risk profiles for each sampling location, based on identified organisms, are shown in the room diagram and demonstrate a room-wide reduction in potentially harmful pathogens.

***Bacillus cereus* group**, a spore-forming bacterium commonly associated with healthcare-associated infections, was detected on five surfaces before testing and only one surface after Visium operation.

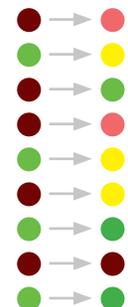
***Enterococcus faecium***, an indicator species for human waste contamination, was detected on a wall surface before Visium use and was not detected after treatment.

***Roseomonas mucosa***, an opportunistic pathogen associated with bloodstream infections and reported Far-UVC resistance, was detected at the phone-charging station before Visium activation but was not detected after, indicating the delivered Far-UVC dose was sufficient for inactivation.



#### CFU Reduction

- 1 Charging Station
- 2 Table 1
- 3 Chair
- 4 Table 2
- 5 Reception
- 6 Security Table
- 7 Door Handle
- 8 Floor
- 9 Wall

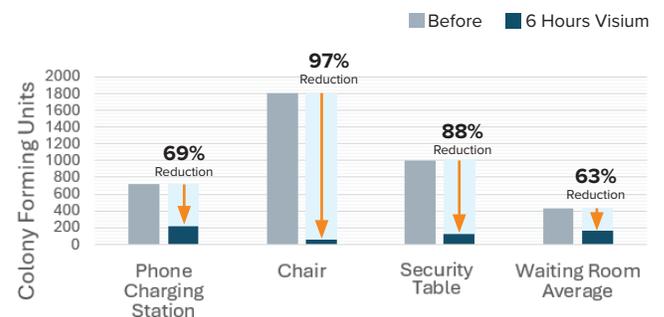


#### Risk Reduction

- High → Medium
- Medium → Medium
- High → Medium
- Medium → Low
- Medium → Low
- High → Medium
- Medium → Low
- Low → Low
- High → Low

## Meadville ER Waiting Room

Change in Surface Bacteria Counts with Visium Use



## Outcome

Visium integrated seamlessly into Meadville Medical Center's facilities and existing hygiene protocols, providing continuous surface sanitization validated through biological sampling.

- ✓ Achieved up to a 99% reduction in colony-forming units (CFUs), even during active use of the waiting area
- ✓ High-risk pathogens, including *Bacillus cereus*, were reduced or not detected following Visium operation
- ✓ After a full day of patient traffic, all sampled surfaces showed reduced or maintained risk profiles with Visium in use
- ✓ Visium lowered overall surface bioburden while inactivating high-risk pathogens, reducing transmission risk to patients and staff

## Conclusion

Meadville Medical Center is a high-impact, community-focused hospital committed to advancing patient wellness and maintaining leadership in quality care. Seeking a solution that would not compromise cleaning efficiency or disrupt Emergency Room operations, the medical center implemented Visium to enhance surface sanitation and reduce pathogen risk.

Despite continuous use of the waiting room, surface bioburden was significantly reduced within six hours of Visium operation. In addition, high-risk pathogens were reduced or eliminated. Meadville Medical Center views Visium as a next-generation safeguard that strengthens patient care by lowering the risk of bioaerosols and respiratory illness transmission.

## Contact & Next Steps

Ready to learn how Visium can transform your spaces?  
Find information about Visium and its applications at [Visium.one](http://Visium.one).

