

Case Study

St. Mary's Hospital for Children



Reducing Costs with SecureAire Filtration

180k

Square feet

\$164k

Total cost savings

52t

CO2 emissions avoided

124

Bed post acute facility

3

AHU and filter swaps

The Client

St. Mary's Hospital for Children, located in Bayside, Queens, New York, is a 124-bed pediatric post-acute care facility that specializes in providing care for children with medically complex conditions. The hospital prioritizes innovative strategies to enhance facility operations, improve air quality, and deliver cost-efficient solutions that support long-term sustainability.

The Challenge

In many healthcare settings, traditional approaches to indoor air quality focus on surface cleaning and other manual processes. While effective for mitigating surface-level concerns, these strategies often fail to address the critical role of airborne particulates, which can impact operational efficiency and indoor air quality. St. Mary's sought a cutting-edge solution to optimize air management, and create a safer, more efficient environment for patients and staff, while reducing operational expenses. It seemed like a tall order, but SecureAire delivered precisely what they were looking for.

The Solution

In February 2019, SecureAire's Active Particle Control™ (APC) system was installed at St. Mary's Hospital, bringing state-of-the-art air purification to patient rooms, common areas, and staff spaces. By replacing their MERV 15 filters with APC technology in the hospital's existing rooftop air-handling units, the system continuously improved air quality throughout the facility while significantly reducing energy costs, carbon emissions, labor, and material usage.

The APC system uses advanced electromagnetic field manipulation to cluster microscopic particulates into larger, more easily filtered aggregates. This process not only reduces ultrafine particulate concentrations but also enhances the efficiency of the hospital's existing filtration systems, improving overall operational performance.

Results - Financial

St. Mary's realized significant financial benefits from implementing SecureAire's APC technology, with direct savings achieved in several key areas, including care, energy, maintenance, and retained revenue.

Over a **four-year period**, the hospital tracked steady financial improvements:

- 2019:** **\$41.1K in gross savings**, offsetting initial implementation expenses.
- 2020:** **\$82.4K in gross savings** as operational efficiencies improved.
- 2021:** **\$123.5K in cumulative savings**, reflecting ongoing reductions in energy use and maintenance costs.
- 2022:** **\$164.6K in total savings**, representing a **\$35.7K net financial gain** that year.

Results - Environmental

In addition to the financial gains, the APC system contributed to reducing the hospital's carbon footprint. Annual environmental savings include:

52 tons of CO2 emissions avoided, equivalent to:

- Driving **117,095 miles** in a typical passenger car
- Consuming **5,308 gallons** of gasoline
- Sequestering carbon on **55.8 acres** of forest