



INCREASED PRODUCTIVITY AND RESOURCE CONSERVATION AT ALBERT EINSTEIN HOSPITAL: AN ANALYSIS OF THE BENEFITS OF THE RUBBERMAID HYGEN™ MICROFIBER SYSTEM

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BACKGROUND

The Hospital Israelita Albert Einstein (HIAE) is a private, 674-bed hospital with nine ambulatory clinics in São Paulo, and is one of the most highly respected healthcare institutions in Latin America. HIAE holds three key accreditations from the Joint Commission International (JCI), the most prestigious standard in global healthcare, and is ranked the #1 hospital for quality, safety and efficiency in South America by business magazine America Economia. HIAE is committed to improving resource productivity and efficiency by focusing on efficient management of non-renewable resources and waste to reduce their environmental impact. This vision is critically important in the present era of limited water and resource supply.

Microfiber cleaning systems are an innovative and effective alternative to traditional wet loop mops and cotton cloths or disposable products for cleaning healthcare facilities. Microfiber possesses superior cleaning and decontamination capacity compared to other commonly used materials.¹⁻⁵ Microfiber products also significantly reduce the amount of water and harsh chemicals necessary for effective cleaning and require less labor to clean.^{4,6} Additionally, the major ergonomic hazards of conventional cleaning systems are reduced or eliminated resulting in a reduction of worker injuries, lost work time and compensation claims.⁶

With their vision of improving cleaning performance and productivity while preserving resources, HIAE formed a successful partnership with Rubbermaid Commercial Products to implement the Rubbermaid HYGEN Microfiber solution. This case study describes the implementation and outcome of the Rubbermaid HYGEN Microfiber System at HIAE.

METHODS

Microfibers are densely constructed synthetic fibers that penetrate microscopic surface pores and possess an electrostatic charge that attracts particles such as dirt and microorganisms. The density of the microfiber allows it to hold six times its weight in water.^{1,6} The Rubbermaid HYGEN System is a comprehensive microfiber cleaning program that includes state-of-the-art microfiber textiles for dry and wet cleaning, unique hardware such as handles and frames that help maximize productivity and value, as well as buckets and carts designed to enhance productivity and cleaning power. The Rubbermaid HYGEN Microfiber System delivers three critical components – optimal cleaning performance for infection prevention; a complete system of products; and dedicated field support to provide seminars, including on-site implementation training and application of best cleaning practices.

The Rubbermaid HYGEN Microfiber System was piloted on one floor of the Morumbi campus of the HIAE. Water and chemical usage, cleaning time, employee satisfaction and customer satisfaction were measured and compared to a control floor, which continued to use the conventional method of cleaning using disposable cloths, spray bottles, ladders and “hands and knees” cleaning. An ergonomic risk assessment was conducted using the Rapid Entire Body Assessment (REBA) tool. Data was collected for a 3-week time period from late July 2013 to mid-August 2013.

RESULTS

The Rubbermaid HYGEN Microfiber System demonstrated superior results when compared to the conventional system of cleaning.

REDUCED CLEANING TIMES

Effective and efficient EVS teams make a significant contribution to the financial performance of their organizations. Improvements in room turnabout time can lead to increased revenues as well as increased patient satisfaction by reducing wait times in the emergency room.

The average time dedicated to terminal or discharge cleaning using conventional methods at HIAE was one hour and five minutes. Terminal cleaning efforts using the Rubbermaid HYGEN Microfiber System took 27 percent less time, allowing EVS workers to accomplish this task in just 47 minutes. Daily patient room cleaning was reduced from 16 to 13 minutes per room, a 19 percent reduction in time.

REDUCED WATER USE

Healthcare facilities are among a community's largest consumers of water. Limiting water consumption provides significant cost savings related to water supply and sewer costs and enables facilities to be stewards of their community's natural

resources. Brazilian practice and cleaning culture incorporates vigorous scrubbing with excessive amounts of water and chemicals. By providing a change in process, product and cleaning culture, the Rubbermaid HYGEN Microfiber System reduced water use at HIAE by 99 percent.

REDUCED CHEMICAL USE

The presence of harmful chemicals poses risks for human health and the environment. Control of chemicals in a hospital setting is important to minimize risks to patients and employees, as well as to prevent harm to the surrounding community. Implementation of the Rubbermaid HYGEN Microfiber System led to a 47 percent reduction in total chemical consumption for terminal cleaning. The total chemical consumption for daily cleaning was reduced by 47 percent.

REDUCTION IN POTENTIAL EVS INJURIES AND WORKERS' COMPENSATION CLAIMS

The Rubbermaid HYGEN Microfiber System generated a REBA ergonomic risk score of 3, indicating a "Low Ergonomic Risk" to healthcare workers. Conventional cleaning activities, which score a rating of 9 on the REBA scale, place healthcare workers at "High Ergonomic Risk" for musculoskeletal disorders. Heavy lifting and repetitive motions that lead to musculoskeletal injury are reduced or eliminated by the innovative microfiber system of tools and processes.

CLEANING STANDARDS MAINTAINED

Cleaning standards have been maintained with the use of the Rubbermaid HYGEN Microfiber System. Microbial evaluation of surfaces was conducted using standard plating methodology before and after implementation of the new system to monitor the effectiveness of cleaning and disinfecting practices. Low levels of microbial contamination were sustained.

EMPLOYEE SATISFACTION

Employee feedback was carefully evaluated and considered. 82 percent of EVS employees preferred the Rubbermaid HYGEN Microfiber System and 73 percent concluded it provided superior cleanliness compared to conventional cleaning. All EVS employees surveyed agreed that the cleaning tools were comfortable and easy to use and provided noticeable time and labor savings.

CUSTOMER SATISFACTION

Both patients and nurses reported satisfaction with the level of cleanliness of the room.

CONCLUSIONS

The Rubbermaid HYGEN Microfiber System provides many health and safety benefits, significantly reduces the environmental impact and provides substantial cost savings while maintaining high cleaning standards. Based on the success of the trial, the Rubbermaid HYGEN Microfiber System has been implemented in all 10 HIAE facilities. Implementing the microfiber program has provided simplicity, economy and effectiveness, as well as conservation and environmental benefits.

ABOUT THE AUTHOR

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