Novaerus Study Summary Report

Overview

Hialeah Nursing and Rehabilitation Center (HNRC) implemented Novaerus technology in selected areas over a period, from October 2012 through May 2013. This technology controls airborne infections by eradicating viruses, bacteria, mold, and allergens as well as harmful contaminants such as MRSA, C-Diff, Norovirus and influenza. HNRC implemented the Novaerus technology in hallways, activity rooms, dining rooms, and therapy departments.

This study (which is not a clinical study) compares nosocomial (facility acquired) infection rates at HNRC before and after the implementation of Novaerus technology. Specifically, this study compares nosocomial infection rates of respiratory and C. Diff. etiologies as well as repeat infection rates over a 90-day period before and after the implementation of Novaerus technology. Additionally, this study observes the trend of nosocomial infections of respiratory and C. Diff. etiologies as well as repeat infection rates over a 90-day period spanning the entire 28-month period under review.

Methodology

A 28-month review was performed on HNRC to evaluate the results that the CEO stated that his facility had benefitted from. A Nurse Risk Manager Consultant visited the facility for two days to pull the facility information and to review the following data:

- o Admission, transfer, and discharge data for all residents,
- o Monthly infection control records, reports, and surveillance,
- o Individual resident infection control examination results (x-rays, cultures, etc.), and
- o A map of the facility, which displays selected areas where the Novaerus system implemented.

The period selected for this study compares the January-April timeframes of 2012 and 2014. Comparison of like periods in both years reduces the risk of skewed data related to seasonal variances that might occur with infection rates. Subsequent to this comparison, this study observes the overall (linear) trend of nosocomial infections related to respiratory and C. Diff. etiologies as well as repeat infection rates over a 90-day period spanning the entire 28-month period under review.

First, this study tallies the facility's nosocomial infection rates related to respiratory and C. Diff. etiologies as well as repeat infection rates over a 90-day period in the aforementioned period, January-April 2012, prior to Novaerus implementation. Next, this study tallies the facility's nosocomial infection rates related to respiratory and C. Diff. etiologies as well as repeat infection rates over a 90-day period in the aforementioned period of 2014, subsequent to Novaerus implementation. This study then compares the sum totals in each category and lists

the differences in percentage terms. Lastly, this study plots the monthly totals for each category spanning the entire 28-month period under review and observes the linear trend line (via Microsoft Excel graph).

Conclusion

When comparing **the facility's repeat infection rate over a 90-day period**, prior to and after implementation of the Novaerus technology, the facility rate **declined significantly by 37.5%.** Second, when comparing **the facility's nosocomial infection rate related to C. Diff. etiology**, prior to and after implementation of the Novaerus technology, the facility rate **declined significantly by 100%.** Next, when comparing **the facility's nosocomial infection rate related to respiratory etiology**, prior to and after implementation of the Novaerus technology, the facility rate **declined significantly by 33%** approximately. Lastly, the **overall** (linear) **trend lines in each category exhibit significant declining trends** (as shown on the accompanying Microsoft Excel graphs). Clearly, implementation of the Novaerus technology has contributed significantly to the infection control as well as quality improvement efforts at HNRC. The attached graphs illustrate the above conclusions.

Total Number of Nosocomial C. *difficile* Infections

100% Reduction

- Pre-Novaerus
- Post-Novaerus

Total Number of Nosocomial Respiratory Infections

33.33% Reduction

- Pre-Novaerus
- Post-Novaerus