

BACKGROUND

Healthcare-associated infections (HAIs) are the most common complication of hospital care and are one of the top 10 leading causes of death in the United States.

Critical care patients are at high risk for HAIs related to invasive devices, compromised health status, and invasive procedures.

Intranasal mupirocin has been shown to be an effective method of decolonization associated with a decreased risk of HAIs; however, concerns exist for driving antibiotic resistance with this method. Alcohol is emerging as a suitable alternative, but fewer studies have been conducted on this intervention.

PURPOSE

This study will investigate whether nurse-driven alcohol nasal antisepsis every 12 hours in the adult ICU population *can mitigate the risk of the following HAIs* over 12 months when compared to the current practice of no nasal decolonization method:

- **MRSA Bacteremia** (Lab-identified event, blood specimens only)
- **CLABSI** (central line-associated bloodstream infection)
- **IVAC/PVAP** (infection-related ventilator-associated condition/possible ventilator-associated pneumonia)

Using a single alcohol swab, clean both anterior nares for at least 30 seconds each. Intervention to be completed every 12 hours.

Four simple steps for daily use

How to use 62% Ethyl Alcohol Nasal Swabs

Item Number: MDS1971

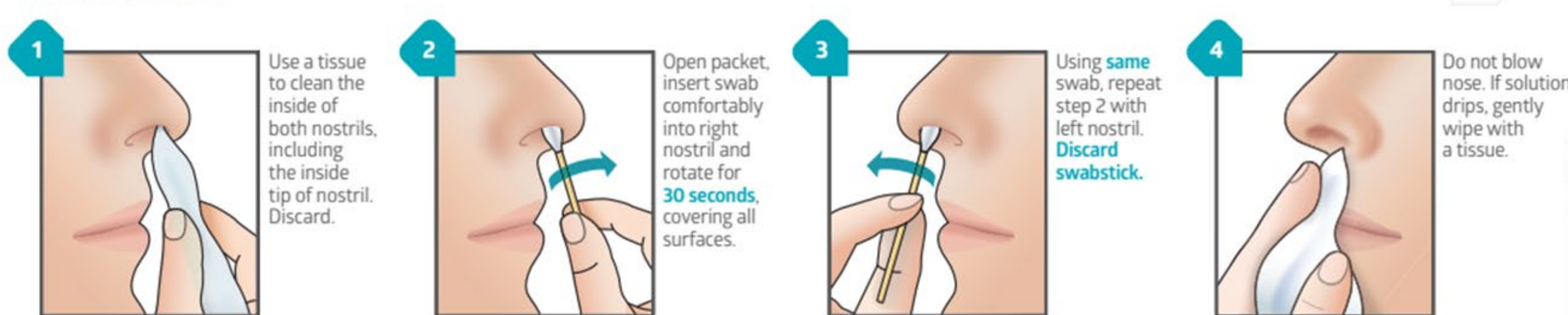


Figure 1. Instructions for daily use of 62% ethyl alcohol nasal swabs. From "Alcohol Nasal Swabs," by Medline, 2020. <https://punchout.medline.com/product/ALC-Nasal-Antiseptic-Swabs/Miscellaneous-OTCs/Z05-PF199595>. Copyright 2020 by Medline Industries, Inc. Reprinted with permission.

BASELINE DATA

Baseline data for comparison. Pre-intervention data is shown for the 1st quarter 2020 through 2nd quarter 2022, a 30-month period.

HAIs and LabID Events are based on NHSN surveillance definitions.

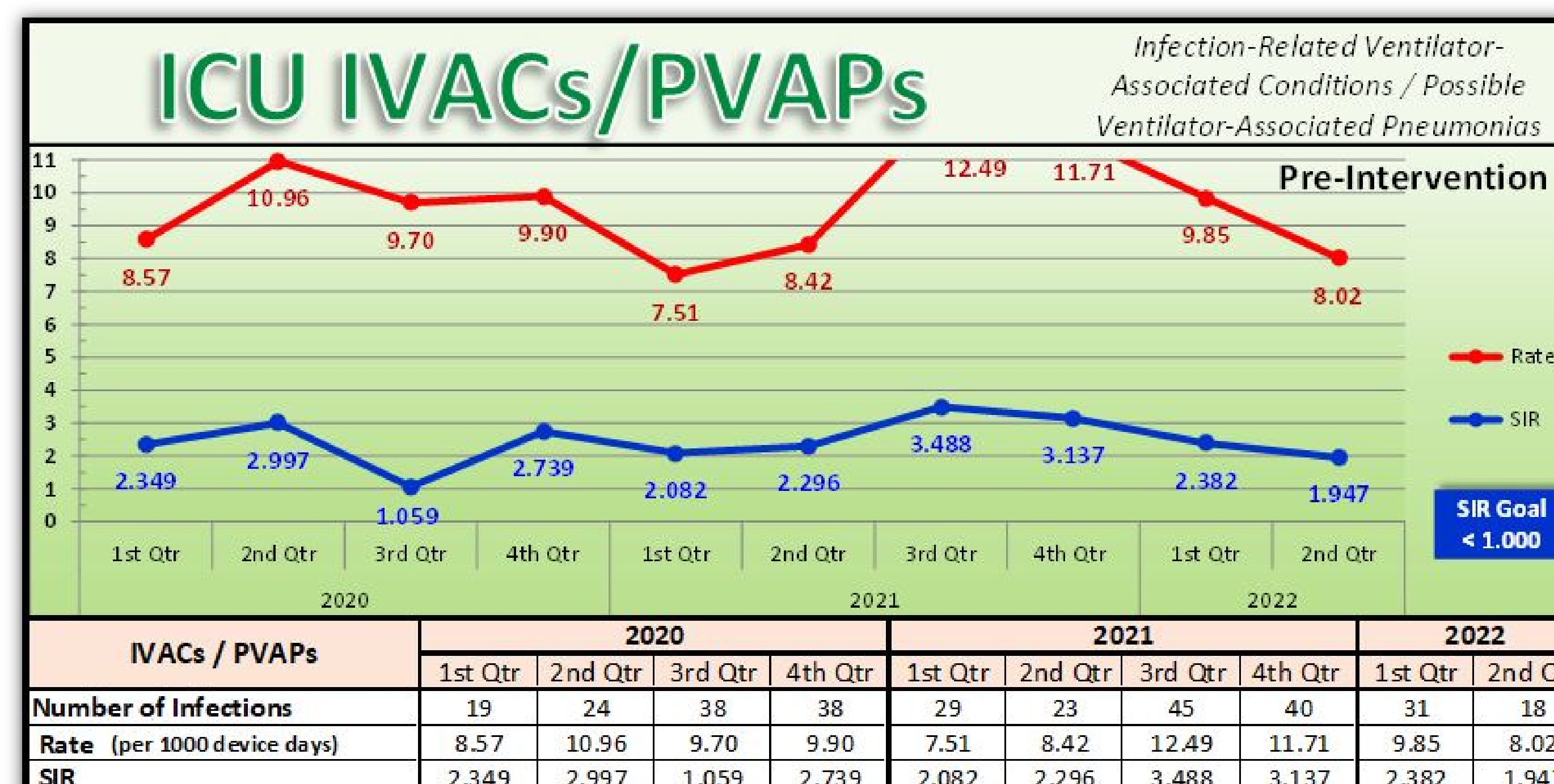
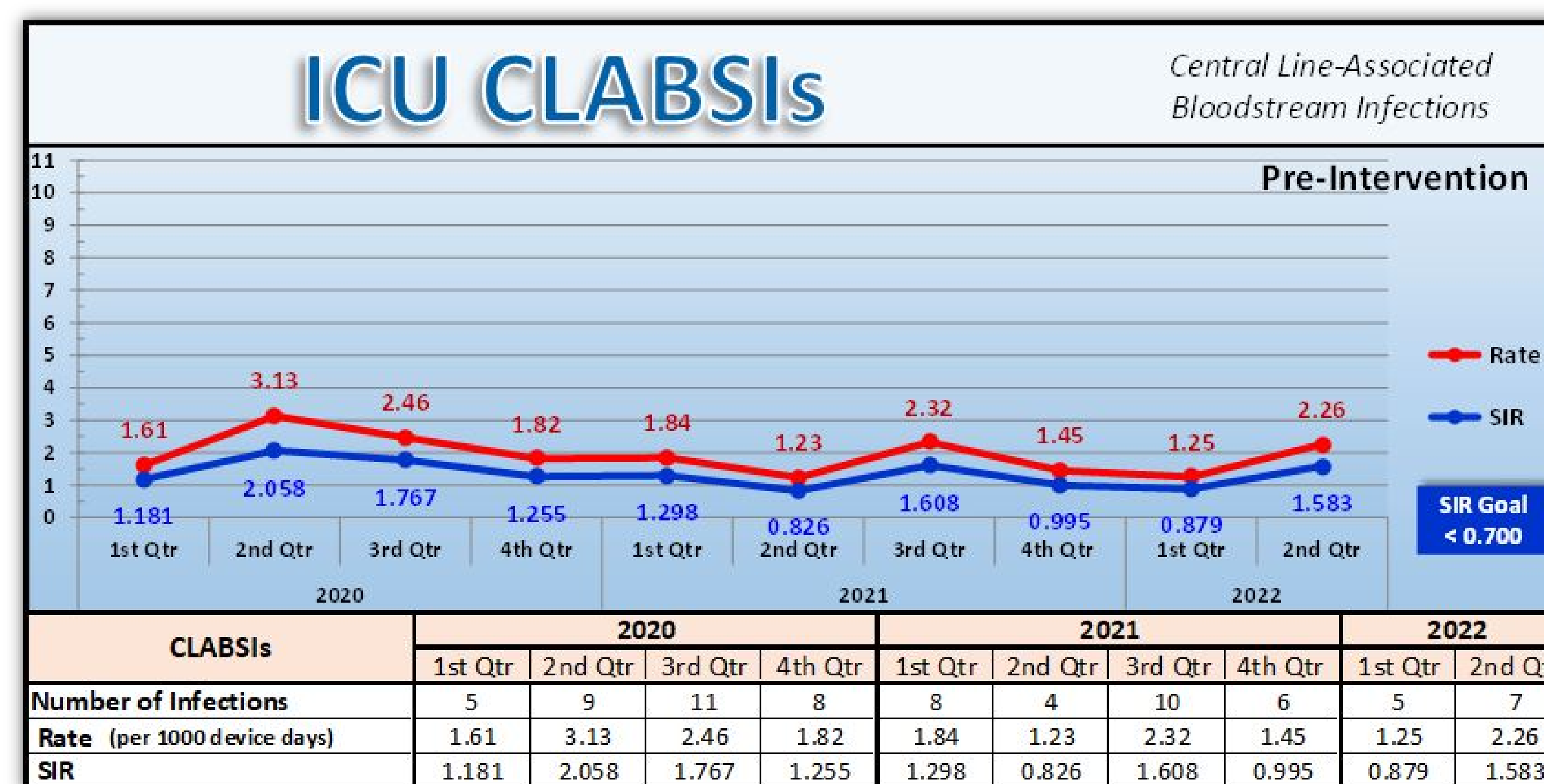
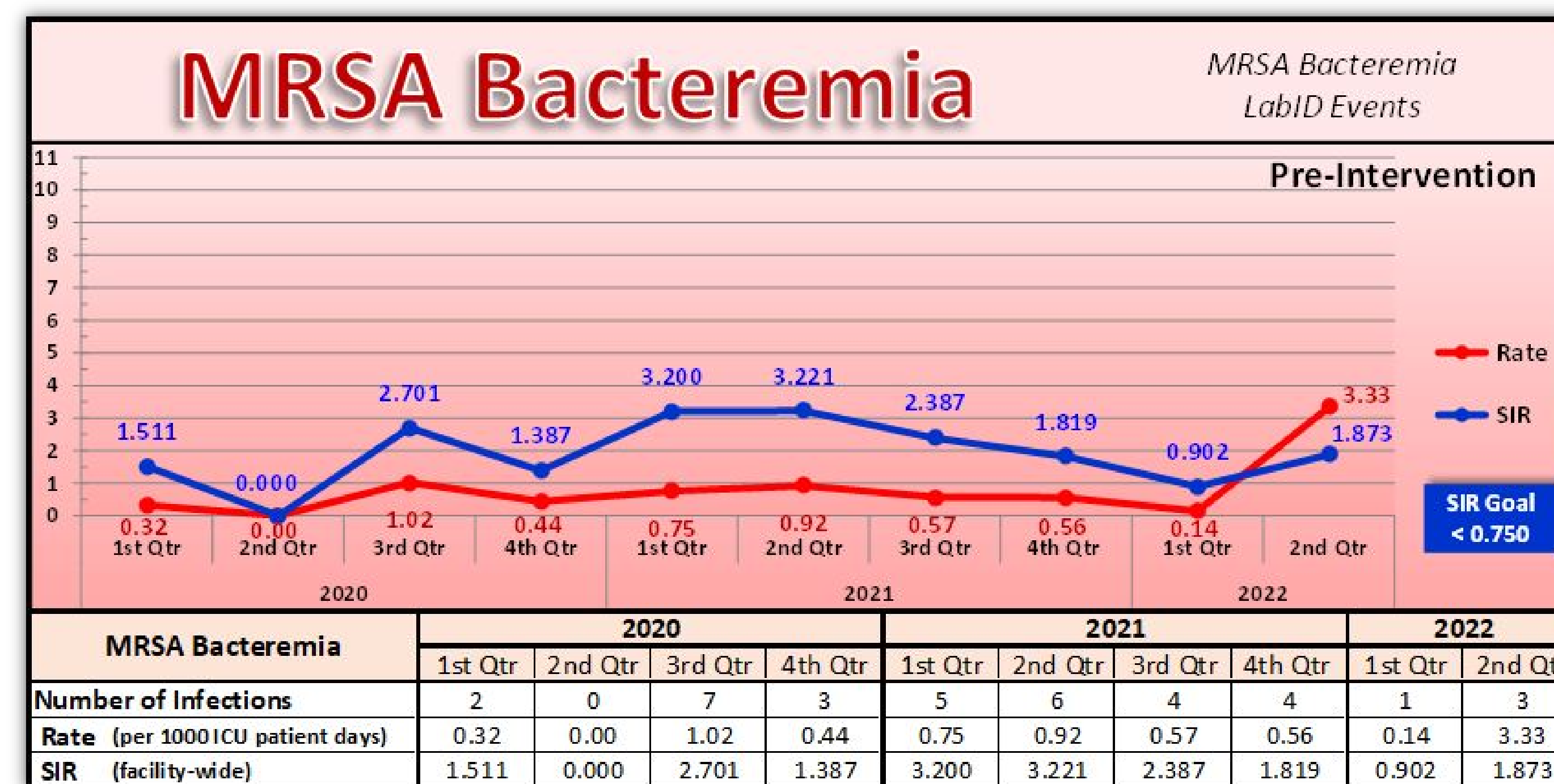


Figure 2. Pre-intervention HAI data for MRSA bacteremia, CLABSIs, and IVACs/PVAPs. From University Medical Center of Southern Nevada, 2022.

METHODS

We will implement a nurse-driven intervention of decolonization of the anterior nares every 12 hours on all adult ICU patients for the duration of their ICU stay. Using a single 62% ethyl alcohol swab per the manufacturer's instructions, both anterior nares will be cleaned using a circular motion for 30 seconds each.

Hospital infection preventionists will continue data collection and synthesis using the standardized surveillance definitions from the National Healthcare Safety Network (NHSN) and analyze changes in rates and standardized infection ratios (SIRs) to determine the clinical significance of the intervention or lack thereof. The measures that will be followed include MRSA Bacteremia LabID Events in the ICUs and facility-wide, CLABSIs in the ICUs, and IVACs/PVAPs in the ICUs.

The data will be compared after 1 year of intervention and ongoing to determine if there is any correlation between alcohol nasal antisepsis and a reduction in hospital-onset MRSA bacteremia, CLABSIs, and IVACs/PVAPs.

RESULTS

After twelve months of data collection and analysis, rates and SIRs will be compared with the previous twelve months prior to the intervention. Intended outcome measures for comparison include central line-associated bloodstream infections (CLABSIs), lab identification events of MRSA bacteremia (MRSA LabID Events), and ventilator-associated pneumonias (PVAPs)

This intervention is based on existing evidence that decolonization of the nares can decrease HAIs and that alcohol is a suitable alternative to the traditional antibiotic ointment, mupirocin. This study will contribute to the body of evidence by specifically investigating the use of alcohol nasal antisepsis and its impact on MRSA bacteremia and other HAIs.

REFERENCES

References are available upon request.

