hundred and two patients were recruited. The oral care sets were used with each patient on the first day they received mechanical ventilation until weaning. VAP surveillance was conducted to compare the VAP rate before and after the ICU used the oral care set. **Results:** Two hundred and sixty-six VAPs developed with an overall 34,731 ventilator days in the participating ICUs in 2022, before ICUs used oral care sets. The VAP rate was 7.66 per 1,000 ventilator days. The cost of antibiotic treatment was 5,134,621.74 Thai Bath. In 2023, after the ICUs used the oral care sets, 182 VAPs were developed. The overall ventilator day was 34,309. The VAP rate was reduced to 5.30 per 1,000 ventilator days. The cost of antibiotic treatment was reduced to 2,101,939.70 Thai Bath. One hundred and eighty-seven ICU nurses evaluated the benefit of the oral care set. Ninety-six-point eight percent of them agreed and strongly agreed that the single-use oral care set could prevent hospital- associated infections. Ninety-two-point five percent agreed and strongly agreed that only one nurse could clean the patient's oral cavity, the oral care set helped reduce VAP occurrence (92%), the patient's teeth and oral cavity were clean (92%), and ICU nurses could work conveniently (91.4%). **Conclusion:** The single-use oral care set can help reduce the VAP occurrence among patients admitted to the ICU.

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s3–s4
doi:10.1017/ash.2025.84

Using the ultra violet C radiation (UVC) led to reduce the airborne microbe in the medical center of North Taiwan

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Introduction: According to the recommendation of the United States Environmental Protection Agency, the bacteria count of airborne microbe must be under 1500 cfu/ m^3. And as we know, the environment is the key factor of the airborne microbe. Traditional, we used air-conditioning to let the air circulate, but this method may be useful in other environments but is not suitable in hospitals. So, there were many new technologies to improve the quality of airborne microbe, just as UVC, plasma, and filtration. In this study, we used the UVC LED to examine the quality of airborne microbes in our meeting room of the emergency room. **Material and method:** We used the impaction method to collect the air for 10 minutes then gathered 1000L air to impact the Tryptone Soy Agar. After collection, we incubated at 37oC for 48 hours the check the bacteria count. So, we used this method to test the quality of airborne microbe before and after adding the UVC-LED (NKFG, Taiwan) to our air conditioner vent in the meeting room of the emergency room. **Result:** Before adding the UVC-LED, the average bacteria count in difference time was from 361 to 443, and after adding the UVC-LED, the average bacteria count in difference time was from 214 to 300, and the percentage of reducing count was from 24% to 40%. **Conclusion:** Due to this study, we though the UVC-LED could improve the quality of the airborne microbe. Otherwise, this technology would not use too much space because of the limitations of the environment.

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s4
doi:10.1017/ash.2025.85

Improving the quality of terminal cleaning & disinfection and reducing nosocomial outbreaks during COVID-19 pandemic in medical center of TAIWAN

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Introduction: Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is highly contagious in humans, and in May 2021, an outbreak occurred in the Wanhua district of Taiwan. During the Coronavirus disease 2019 (COVID-19) pandemic, we implemented various rules to prevent the spread of SARS-CoV-2- alpha in the hospital. This included establishing four special wards (dedicated care wards) specifically for patients infected with SARS-CoV-2-alpha. When patients were discharged, we conducted real-time polymerase chain reaction (RT-PCR) testing on the terminal environment to ensure that SARS-CoV-2- alpha was not present. Maintaining a negative test result was crucial for preventing cross-infection and further outbreaks. The goal of this study was to identify effective intervention measures to improve the quality of terminal cleaning and achieving overall infection control in the hospital. **Methods:** After cleaning and disinfection of the dedicated care wards by the cleaning staff as per the recommendations of the Centers for Disease Control (CDC), we collected three swabs from different areas in one ward. We used Roche and GeneXpert instruments for COVID-19 RT-PCR testing. However, because the test results were not ideal, we introduced ultraviolet-C (UV-C) machines and a disinfectant solution containing hydrogen peroxide (H_2O_2) into our current cleaning and disinfection procedures. **Results:** The negative test result ratios for RT-PCR testing were 80.13% when cleaning was done with bleach- only method as a disinfectant (without intervening with other methods); 92.81% when intervening with UV-cC machine disinfection for 5 minutes was done before bleach disinfection; 96.19% when bleach was replaced with a disinfectant solution containing H_2O_2 and intervening with UV-C disinfection. **Conclusion:** The quality of terminal cleaning and disinfection was a key factor in reducing nosocomial outbreaks. We could consider using UV-C machine and H_2O_2 disinfectant to intervene in the current bleach disinfection method to enhance the quality of terminal cleaning and disinfection in the hospital.

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s4
doi:10.1017/ash.2025.86

The effect of Meropenem stewardship at Prof Ngoerah Hospital on the prevalence of carbapenem resistant *Acinetobacter baumannii*, Carbapenem-resistant *Pseudomonas aeruginosa* and the cost of purchasing meropenem

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Background: Irrational use of antibiotics will trigger anti-microbial resistance which is a threat to health problems now and in the future. The use of meropenem is often the last choice in using antibiotics without undergoing microbiological examination (culture). The rational use of meropenem is expected to reduce resistant microbes as well as reducing hospital costs. Anti-microbial stewardship at Prof Ngoerah General Hospital began to be implemented at the end of 2020, and evaluation of the implementation of antimicrobial stewardship is required. **Objective:** The aim of this study