Copper was the first registered solid antimicrobial material by the U.S. Environmental Protection Agency. Although the molecular mechanism by which this occurs still remains to be fully understood, copper’s natural ability to disrupt the spread of bacteria, yeasts, and viruses has drawn the curiosity of public health experts. When they occur, hospital-acquired infections, or HAIs, significantly burden the healthcare delivery system. With the rising prevalence of antibiotic resistance, the need to find new ways to prevent infectious disease is a growing concern. The Copper Touch Project aims to implement these laboratory findings into the clinical setting to prevent nosocomial infections. This pilot study takes place in the intensive care units of the UCLA Ronald Reagan Medical Center, where many of the patients are immuno-compromised. High-touch surfaces (assets) including beds, chairs, tray tables, and procedure carts have been coated with antimicrobial copper in select patient rooms. In order to track the proper placement of these assets in the appropriate patient rooms, undergraduates from the UCLA CTSI Research Associates Program assisted with inventory data collection twice a day, seven days a week over the course of a three-year period. The incidence of HAIs was compared to this data and analyzed for any significant correlations with the presence of the copper assets. In addition, periodic laboratory testing of the copper surfaces was conducted to verify the efficacy of the material throughout the study.

To study whether reduced bacterial count has a role in:
1) reduced hospital-acquired infections (HAIs)
2) reduced health costs
3) improved patient health outcomes
To identify any correlations between the presence of antimicrobial copper assets in patient rooms and reduced prevalence of HAIs
To establish a paradigm for improved hospital sterilization practices and infection-prevention reform

**Figure 1: Assets in the 4ICU coated with copper/sham stainless steel**

**Figure 2: Layout of the rooms in the 4ICU**

1. **Overall and unit costs of the five most common hospital-acquired infections (HAIs) in the US.** The Center for Disease Dynamics, Economics, and Policy.


3. **This research poster was funded by the CTSI through NCATS Grant No: UL1TR001881.**

Some of the challenges in this pilot study will better inform future studies that measure the impact of antimicrobial copper surfaces in preventing HAIs. The Copper Touch Project plans to expand its collaboration with other partnering medical institutions who are also interested in reducing HAIs in their facilities. Primarily, modifications to the distribution of copper rooms on each floor will help prevent intermixing of each type of asset within a single room. This will help eliminate the confounding effect on data collection of the efficacy of each asset type.