Improving Hand Hygiene Compliance in a Ugandan Neurosurgery Ward Through Implementation of Hand Sanitization Interventions

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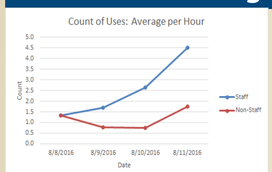
PROJECT SUMMARY

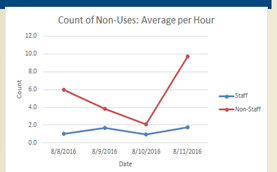
Duke Global Neurosurgery and Neuroscience (DGNN) has been working to improve neurosurgery facilities and training programs in Uganda at Mulago National Referral Hospital (MNRH) since 2007. Despite the successful implementation of a twinning program and an overall increase in the number of complex procedures performed, mortality rates have not decreased among neurosurgery patients. One identified contributor for this trend is a lack of pre- and postoperative interventions, including reducing hospital-acquired infections. Current literature suggests minimizing infectious disease rates through an easily-accessible, effective sanitization agent, which first requires a culture of hand hygiene compliance.

PROJECT OBJECTIVES

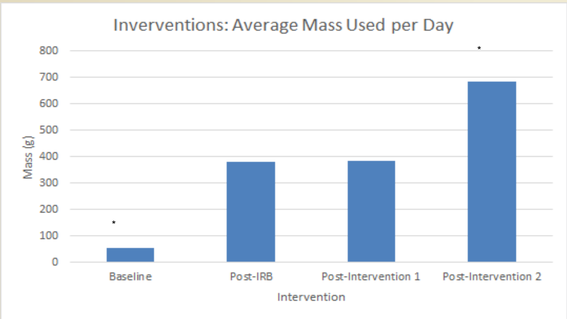
The objective of our study was to implement an intervention to improve hand hygiene practices within the MNRH neurosurgical ward. We strove to promote greater practice of hospital staff sanitization through a minimally-invasive method to encourage compliance.

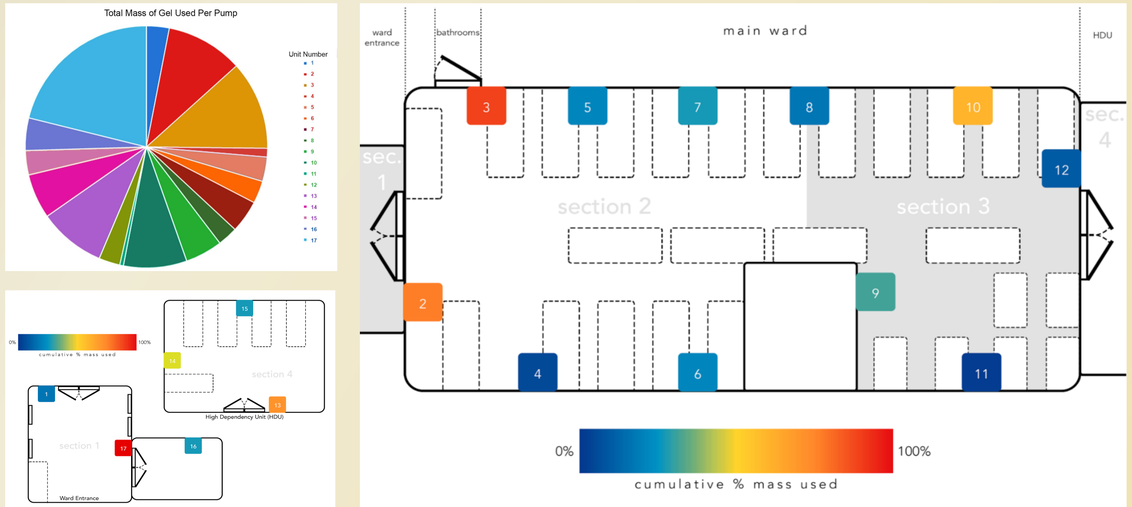
Observational Data: Usage and Non-Usage Counts





Relative Daily Usage Post-Interventions





Heat Maps & Pie Chart: Visualizing Sanitization Usage Spatially

METHODOLOGY

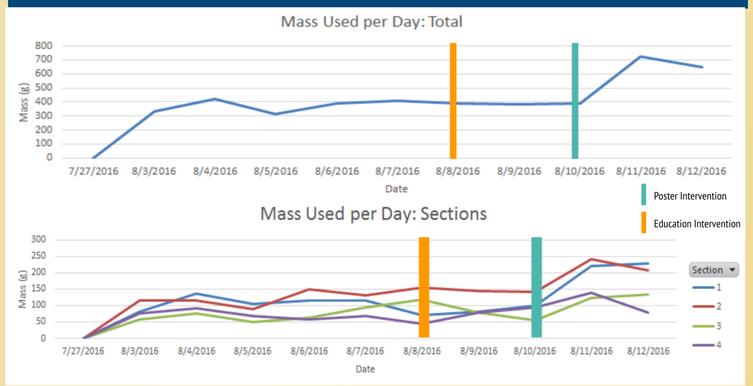
We aimed to augment hand hygiene practice through hand sanitization pumps by addressing **accessibility**, **education**, and **visibility** in the MNRH neurosurgical ward. Our intervention involved installing the pumps throughout the neurosurgical ward, holding a hospital staff training session, and introducing educational posters on hand hygiene. Compliance with this minimally-invasive intervention was measured through:

- *Quantitative data* on the mass of the sanitization gel in pumps over time based on location in the ward.
- *Observational data* detailing the interactions between staff, family, and patients where compliance was observed.
- *Surveys* providing staff feedback on effectiveness of interventions.

RESULTS & CONCLUSIONS

- Assessment Findings: Both training and educational signs increased sanitization pump usage, but direct staff training alone did not significantly influence usage. Pump location and usage suggested that areas of particularly high traffic experienced greater usage than sections of lower traffic or hindered accessibility. Count data showed an increase in staff usage. This data suggests that a culture of proper hand hygiene was being fostered.
- Areas for Improvement: This method can be applied to more effectively improve compliance with infection control measures, with potential to see decreased infection-related mortality rates in the neurosurgery ward.

Mass Data Usage per Day: Total and Sectional



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Mulago National Referral Hospital