



# ICPIC2025

## INTERNATIONAL CONFERENCE ON PREVENTION & INFECTION CONTROL

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# P1170

## THE VALUE OF A HOSPITAL ONSITE-GENERATED DISINFECTANT AND CLEANER

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### Background

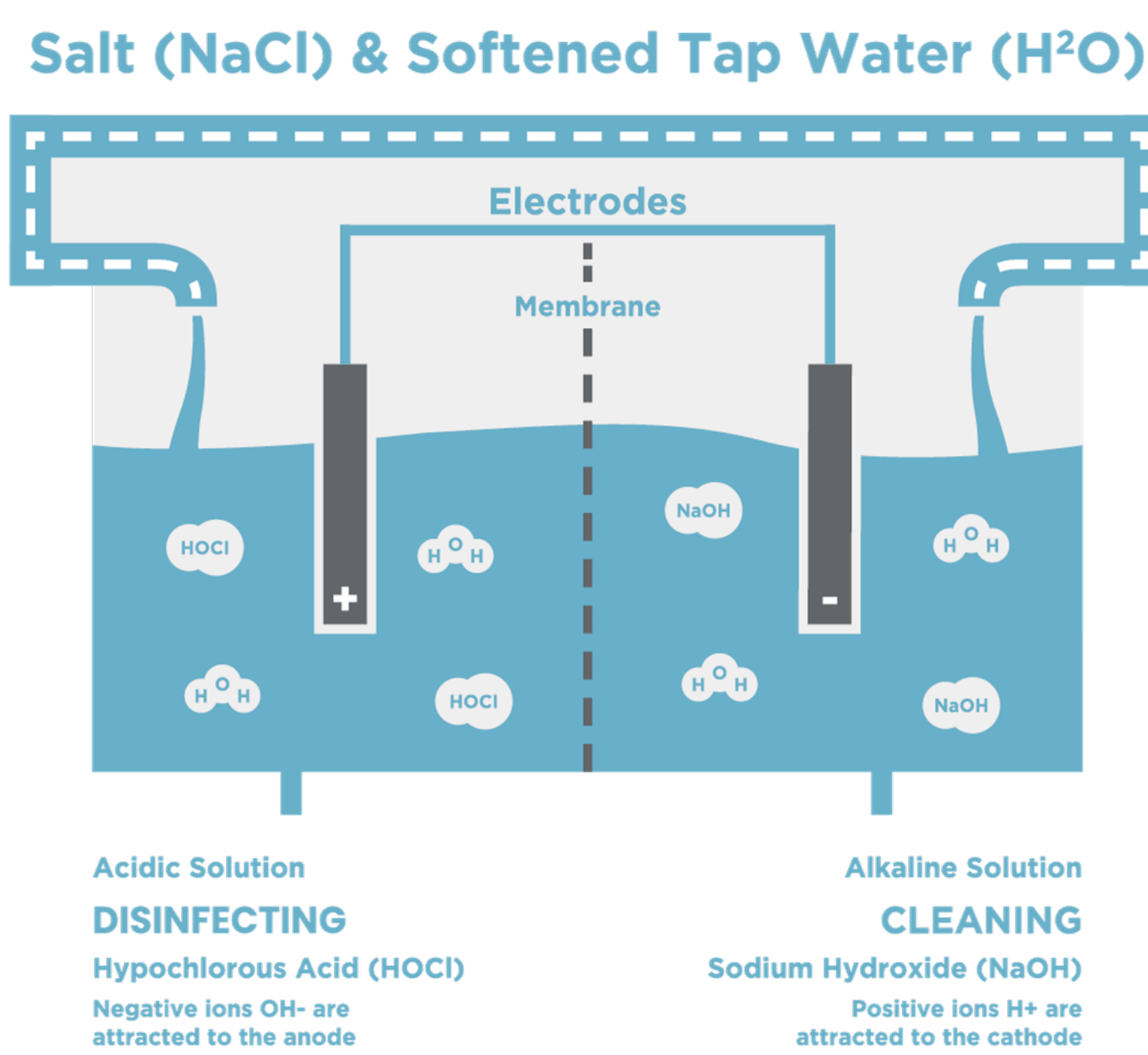
Ensuring the safety of patients and healthcare staff requires a clinical environment that is free from infection risks and chemical hazards. The selection of disinfectants and cleaners plays a crucial role in achieving this objective. Traditional disinfectants and cleaners can be harsh on humans, surfaces, and the environment. To address this concern, innovative electrolyzed water technology has emerged (**hypochlorous acid and sodium hydroxide**), offering a powerful-yet-safe, simple, sustainable, and effective disinfectant/cleaner on demand.

### Methods

18 Month Trial Metrics  
Orlando Regional Medical Center  
Orlando, FL USA

- ATP Verification
- SIR Report
- Employee Safety
- Employee Survey
- Sustainability
- Chemical Cost

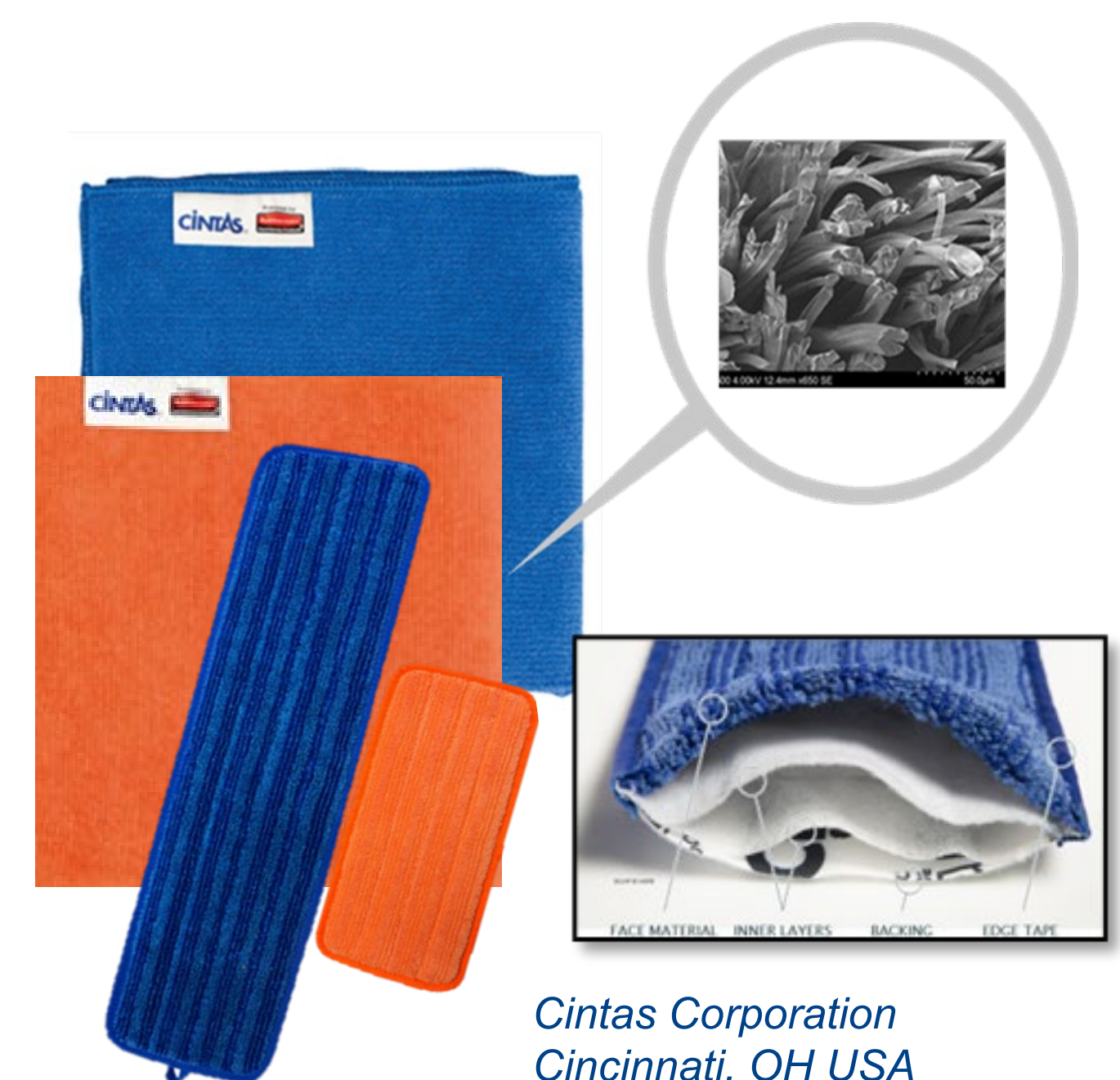
#### Electrolyzed Water Chemistry and On-Site Generator



#### On-Site Dispensers

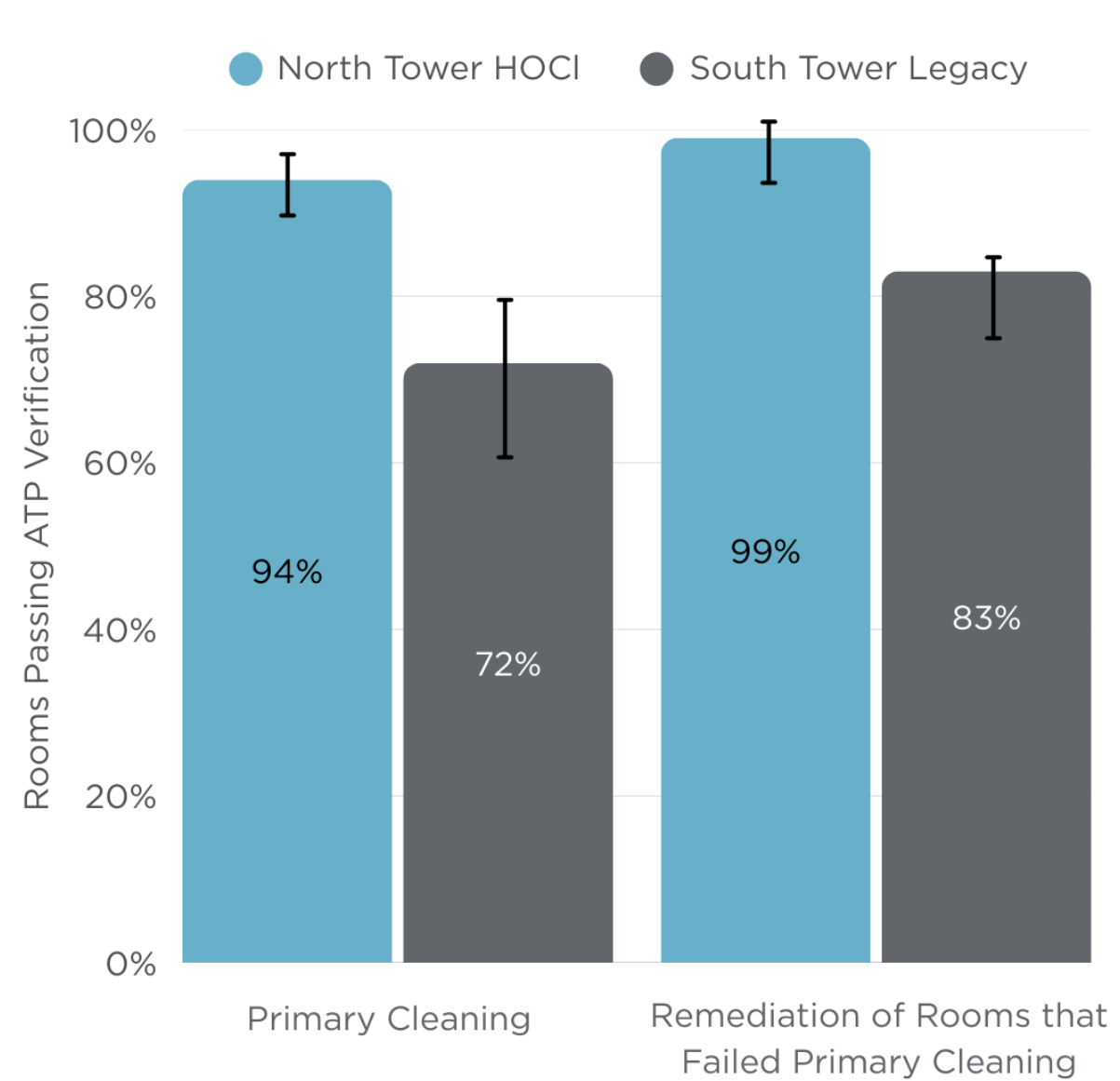


#### Health Care Grade Ultra-Microfiber (HGUM)



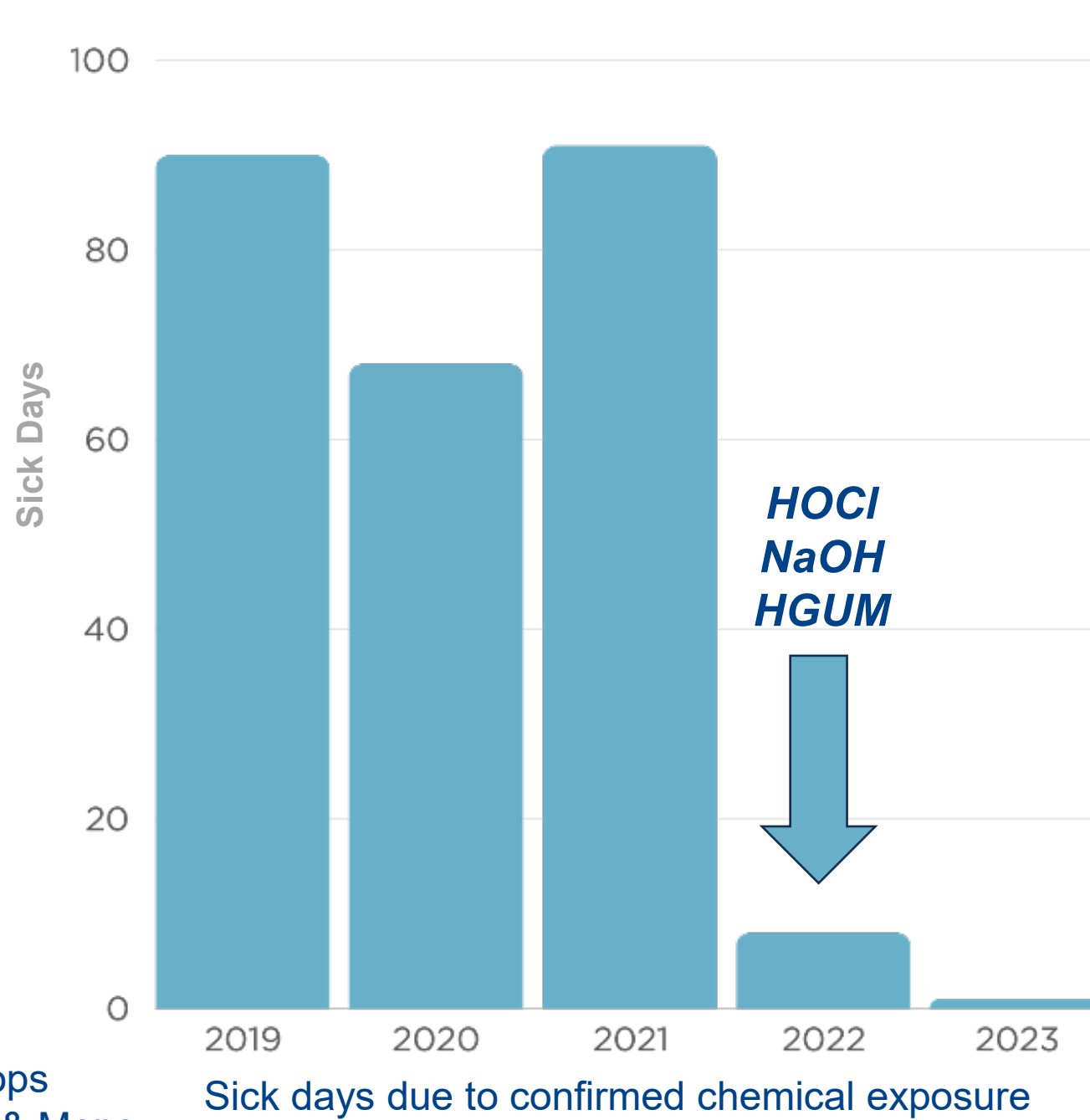
### Results

#### Room Disinfection



ATP Pass = <225 RLU 3M Luminometer St. Paul MN USA  
North Tower = 38 Rooms HOCl, NaOH, and HGUM Wipes and Mops  
South Tower = 36 Rooms Legacy Disinfectants, Cleaners, Wipes, & Mops

#### Employee Sick Days



#### Cleaners and Disinfectants

**Before HOCl, NaOH, HGUM**  
4 Disinfectants  
11 Cleaners

**After HOCl, NaOH, HGUM**  
4 Disinfectants  
Reduced usage for 3 remaining legacy disinfectants  
3 Cleaners  
Reduced usage for 2 remaining legacy cleaners

#### Employee Survey

Q10: Do you feel these products have a positive impact on your HEALTH and ENVIRONMENT?  
84% YES

Q13: Do you feel you create less waste using these products?  
100% YES

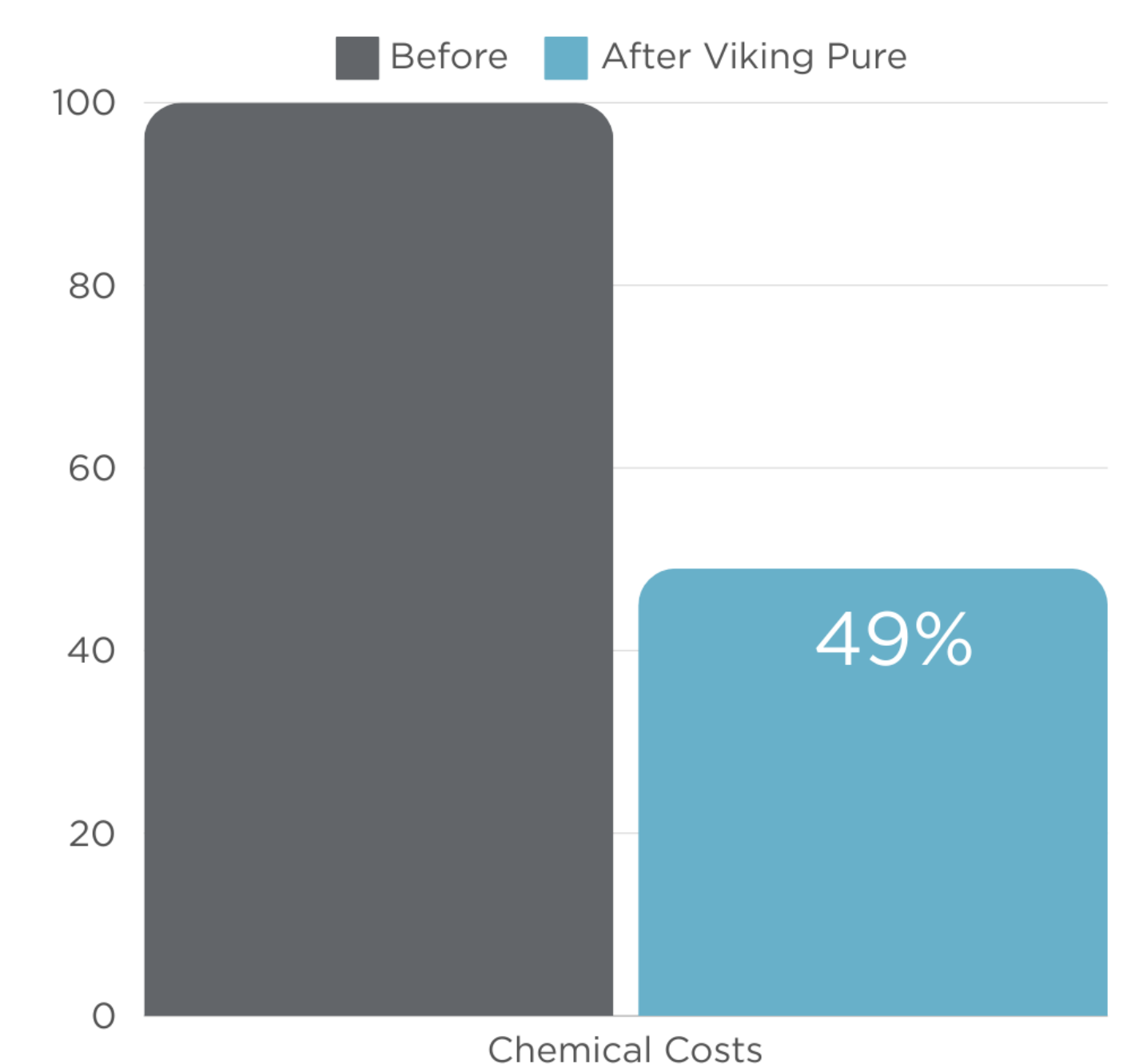
Q23: Has the introduction of the CINTAS/Viking Pure system made it easier to complete your job?  
74% YES

Q24: Do you feel these chemicals are good for ORMC, its patients, and TM's?  
95% YES

#### Sustainability

- 54,600 lb. wipes & packaging waste eliminated annually
- 1,040 chemical product bottle waste eliminated annually
- ~100 lbs. of plastic waste

#### Chemical Cost



#### Standardized Infection Ratio (SIR) Reduction

HAI	Before June 2021-June 2022	After June 2022-June 2023	% Reduction
<i>S. aureus</i> MRSA	1.019	0.336	67.0
<i>C. difficile</i>	0.283	0.204	27.9

### Summary

Utilizing an onsite-generated disinfectant and cleaner combined with HGUM wipes and mops mitigates the risk of pathogen transfer, creating a safer environment for both employees and patients. The use of onsite-generated hypochlorous acid (HOCl) disinfectant and sodium hydroxide (NaOH) cleaner and HGUM wipes and mops contributed to a substantial reduction in waste and overall costs for the hospital. Ongoing studies aim to enhance the impact of this case study, as well as to expand the application of this technology within acute settings.

### References

- Farah, R.F.I. and Al-Haj Ali, S.N., 2021. Electrolyzed water generated on-site as a promising disinfectant in the dental office during the COVID-19 pandemic. *Frontiers in Public Health*, 9, p.629142.
- Fulenchek, J., Glenn, D., Fite, M. and Clark, C., 2022. Comparing the microbial removal efficacy of new and reprocessed microfiber on health care surfaces. *American Journal of Infection Control*, 50(11), pp.1274-1276.
- Iram, A., Wang, X. and Demirci, A., 2021. Electrolyzed oxidizing water and its applications as sanitation and cleaning agent. *Food Engineering Reviews*, 13(2), pp.411-427.
- Yan, P., Daliri, E.B.M. and Oh, D.H., 2021. New clinical applications of electrolyzed water: a review. *Microorganisms*, 9(1), p.136.

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