

Cleaning up Sterilization and Disinfection: Training Opportunities Identified in Dentistry

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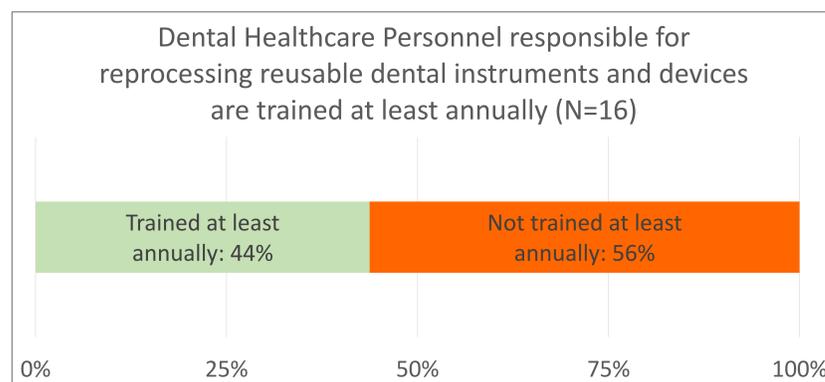
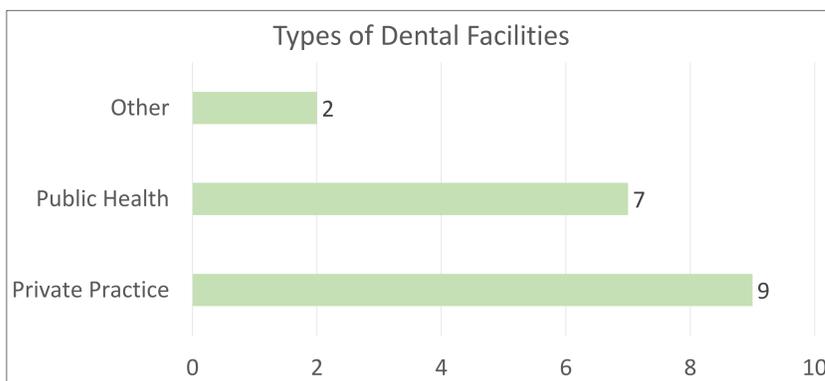
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Objectives

- The Nebraska Infection Control Assessment and Promotion Program (ICAP) is a grant funded program supported by the Centers for Disease Control (CDC) and Nebraska Department of Health and Human Services
- ICAP offers free, voluntary infection control consultations to Nebraska healthcare facilities, performing in-person assessments upon request using an adaptation of the CDC's "Basic Expectations of Safe Care" infection prevention checklist¹.
- Competency in sterilization and disinfection of patient care items in dental practices is often assumed but rarely assessed and reinforced.

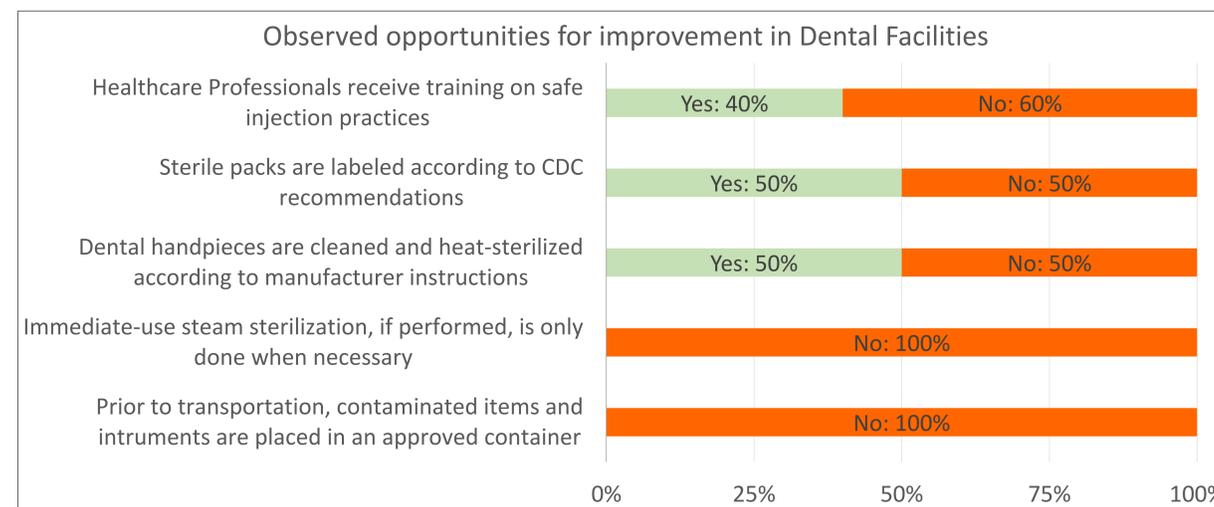
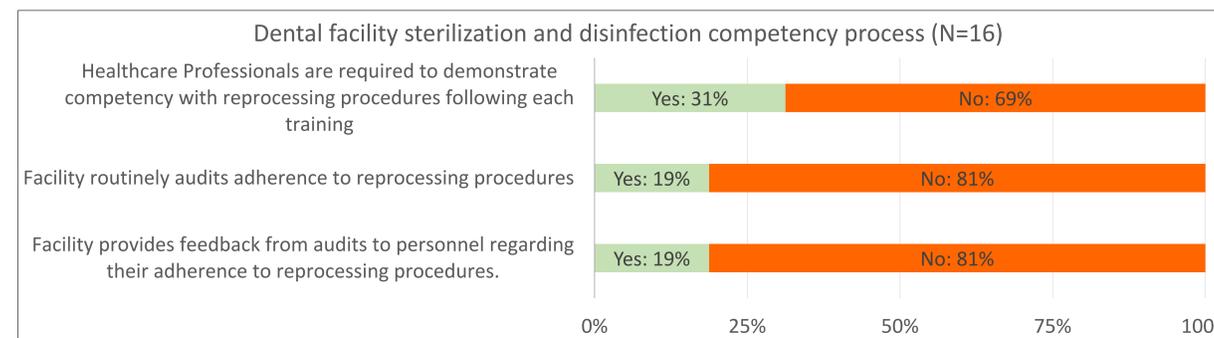
METHODS

- NE ICAP conducted on-site assessments and observations of infection prevention and control programs for dental facilities in the State of Nebraska
- Eighteen assessments were conducted in 2018-2019 and four from April to June 2021, representing 22 (2.7%) of Nebraska's 817 dental facilities; assessments were suspended during the early phases of the COVID-19 pandemic



RESULTS

- Nine private practices, seven public health facilities, and two other dental facilities were assessed
- 56.3% of facilities did not offer annual staff training on sterilization and disinfection processes
- 68.8% of facilities lacked competency evaluation and 81.3% of facilities did not offer audit or feedback to employees specific to sterilization and disinfection
- Opportunities for improvement in instrument transportation and immediate use steam sterilization (IUSS) were identified in 100% of the facilities observed.
- Additional opportunities in at least 50% of facilities observed were sharps management, pouch/ pack labeling protocols and processing handpieces
- To place these findings in a larger context, we performed a literature search of Pubmed for manuscripts published in the past 20 years with at least one US-based coauthor and containing the keywords "Dental" or "Dentistry", "infection prevention" or "infection control", and "training", "competency", "education", or "knowledge", to identify literature on infection control education in US dental practices. The overwhelming majority of results described infection control knowledge among US dental trainees or dental professionals outside the US. A single study² found that US-based dental hygienists indicated they were familiar with dental infection control guidelines and considered them important but were frequently nonadherent to tenets of those guidelines.



Conclusion

- Improvements to annual employee training specific to sterilization and disinfection practices in dentistry are widely needed and extend beyond concerns specific to COVID-19
- Limitations of this study include small sample size and potential selection biases (i.e. all facilities volunteered for assessment; most facilities were near Nebraska's urban core)
- Future research should assess regional variation in facility Infection Prevention and Control (IPC) training and competencies, the optimal modalities of IPC training in dental facilities, and the impact of standardized IPC trainings specific to dentistry on facilities' IPC practices
- Little has been published concerning infection control training among US dental professionals; most literature assessing infection control knowledge and competency has focused on trainees and/or practitioners outside the US. Given that self-reported uptake of CDC infection control guidelines among US dental professions is low³, infection control training needs and barriers in US dental facilities require further study

DISCLOSURE

- The authors of this study have no relevant conflicts of interest to disclose related to the content of this poster.

REFERENCES

- Centers for Disease Control and Prevention (CDC). (2016). Summary of Infection Prevention Practices in Dental Settings; Basic Expectations for Safe Care
- Garland KV. A survey of United States dental hygienists' knowledge, attitudes, and practices with infection control guidelines. *J Dent Hyg.* 2013 Jun;87(3):140-51. PMID: 23986330.
- Cleveland JL, Bonito AJ, Corley TJ, Foster M, Barker L, Brown GG, Lenfestey N, Lux L. Advancing infection control in dental care settings: factors associated with dentists' implementation of guidelines from the Centers for Disease Control and Prevention. *J Am Dent Assoc.* 2012 Oct;143(10):1127-38. doi: 10.14219/jada.archive.2012.0044. Erratum in: *J Am Dent Assoc.* 2012 Dec;143(12):1289. PMID: 23024311; PMCID: PMC4624311.

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