Is It Squeaky Clean? An Adaptable Standardized Audit Instrument for Assessing Patient Room Cleanliness Applied Within Intensive Care Units (ICUs)

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Introduction

- Research has consistently linked proper cleaning and disinfection of patient rooms to reduced rates of hospital acquired infections (HAIs)[1]
- Clean patient rooms are especially important within intensive care units (ICUs), where many patients are immunocompromised
- A standardized audit instrument was created to assess the cleanliness of patient-ready rooms across various surfaces and ICUs

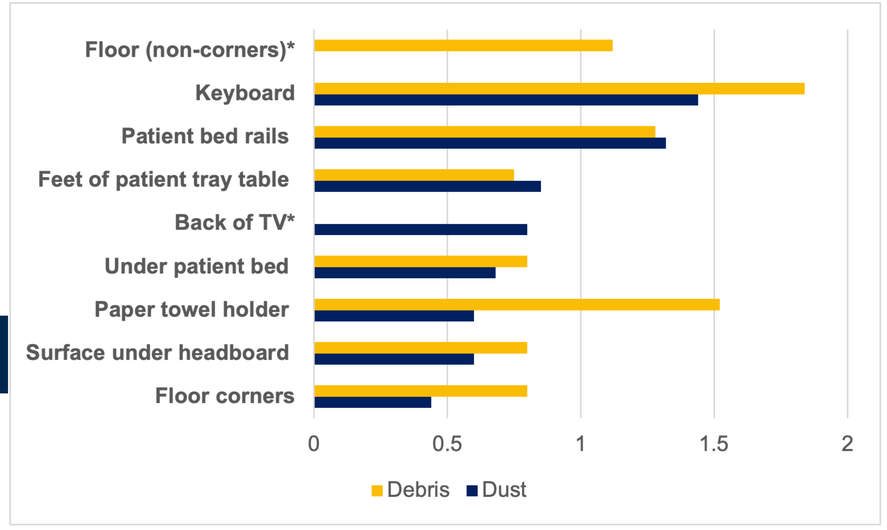
Methods

- Recurrent cleaning deficiencies and their frequent locations were recorded across 11 patient-ready ICU rooms and used to develop a standardized audit instrument
- Dust and debris were assessed across eight surfaces each, with some overlap, while residue/smudges were assessed across five additional surfaces
- Scoring system: 0 = major deficiencies observed, 1 = minor deficiencies observed, 2 = no deficiencies observed
- A total of 25 rooms across 4 different ICUs were audited

Results

- **Dust** *(Figure 1 and Figure 3)*
  - Highest average surface score: computer keyboard (1.44)
  - Lowest average surface score: floor corners (0.44)
  - Highest average unit score: Medical ICU #1 (1.04)
  - Lowest average unit score: Burn ICU (0.64)
- **Debris** *(Figure 1 and Figure 3)*
  - Highest average surface score: computer keyboard (1.82)
  - Lowest average surface score: feet of patient tray table (0.75)
  - Highest average unit score: Medical ICU #1 (1.31)
  - Lowest average unit score: Surgical ICU (0.93)
- **Residue/Smudges** *(Figure 2 and Figure 3)*
  - Highest average surface score: wall across from patient bed (1.80)
  - Lowest average surface score: wall by whiteboard (1.12)
  - Highest average unit score: Medical ICU #2 (1.92)
  - Lowest average unit score: Burn ICU (1.16)

Figure 1. Average Audit Score by Surface – Dust and Debris



*Floor (non-corners) only assessed for debris; back of TV only assessed for dust

Figure 2. Average Audit Score by Surface – Residue and Smudges

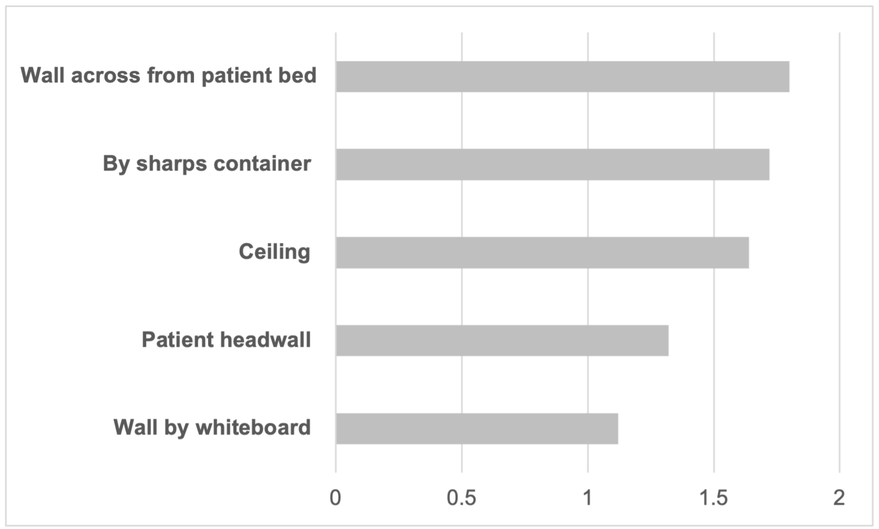
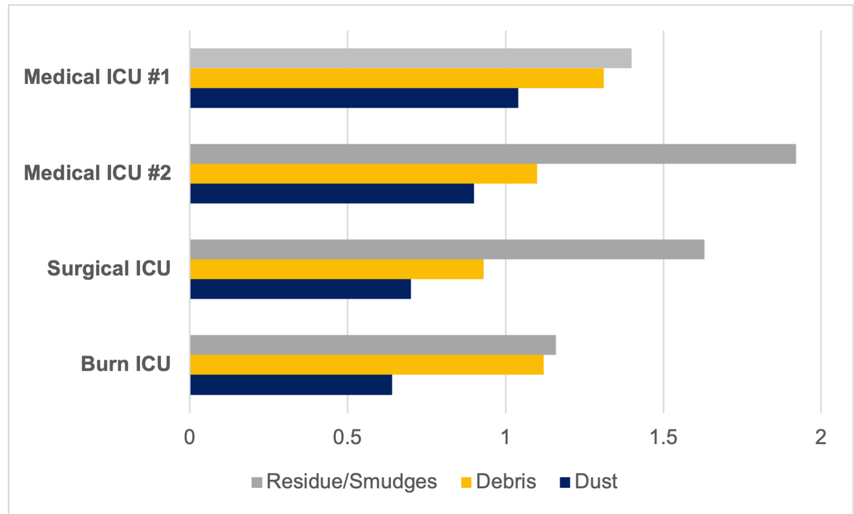


Figure 3. Average Audit Score by Unit



Discussion

- This audit instrument successfully identified surface-specific and unit-specific cleaning deficiencies, allowing for targeted quality improvement
- Within the University Hospital, areas for cleaning improvement include dusting, particularly in floor corners of the Burn ICU
- Areas of strengths included the absence of residue/smudges and the visible cleaning of computer keyboards

Conclusions

- This tool provides a standardized and objective approach in assessing environmental cleanliness of patient-ready rooms and has the potential to both promote quality improvement efforts and safer patient care
- Implementation of this standardized audit instrument includes guiding decision making on when to request a room re-clean, track cleanliness over time, identity strengths of current cleaning processes, and be tailored to meet the needs and risk profiles of various healthcare settings

References

1. Centers for Disease Control and Prevention. (2024, April 22). Considerations for reducing risk: Surfaces in healthcare facilities. U.S. Department of Health and Human Services.

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