



# Sustained intervention to improve performance in environmental cleaning in hospitals

## Interventional study

at 3 adult medical/surgical critical care units at an academic medical center

### WHAT WAS INVESTIGATED?

In this study, an environmental cleaning programme that consisted of a multimodal intervention was introduced. A special focus was placed on maintaining the effects of the programme.

The study took 4 years and included the following phases:

- Baseline assessment
- Multimodal intervention
- Maintenance programme with different strategies of feedback (divided into 5 phases)

The multimodal cleaning programme consisted of various aspects:

- Checklist for room cleaning
- Educational programme for housekeeper
- Training DVD
- Measurement of cleaning using fluorescent markers
- Feedback

### WHAT WAS THE RESULT?

Multimodal intervention resulted in an increase of environmental cleaning compliance from 47 % to approximately 75 %.

Different strategies of feedback in the maintenance phase resulted in different development of cleaning compliance.

The best formula for sustaining cleaning performance was a combination of immediate individual feedback and monthly reporting to frontline personnel.

Monthly feedback of performance data in face-to-face meetings with frontline personnel is crucial in maintaining environmental-cleaning effectiveness in adult critical care units.





## BACKGROUND

Environmental cleaning is a critical aspect of preventing the transmission of pathogens that cause healthcare-associated infections.

The goal of quality improvement projects is to achieve rapid improvements in cleaning compliance, however, measures to achieve a sustained effect are often lacking.

## GOAL

The aim of this study was to offer insights in the use of different feedback strategies to maintain compliance improvement in environmental cleaning and create sustainability.

## DESIGN AND METHODS

The study was conducted in 3 adult critical care units from Dec 2008 until Nov 2013 and consisted of the following phases:

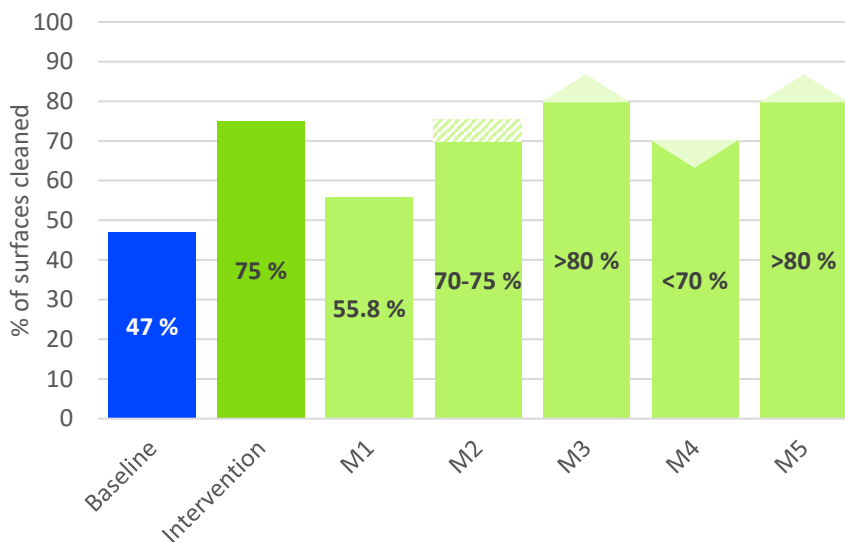
- **Baseline assessment** (4 months)
- **Multimodal intervention** (6 months): cleaning checklist, education and training, sampling of 45 rooms/month (fluorescent marker), rapid-cycle feedback,
- **Maintenance phase 1 – M1** (9 months): feedback to Environmental Services (EVS) administration on quarterly schedule and sampling of 10 rooms/month
- **M2** (9 months): feedback to EVS administration on monthly schedule and sampling of 15 rooms/month
- **M3** (5 months): face-to-face feedback with EVS housekeepers on monthly schedule
- **M4** (4 months): immediate feedback of individual room cleaning to EVS unit supervisor and monthly report to EVS administration
- **M5** (14 months): immediate feedback of individual room cleaning to EVS unit supervisor and face-to-face feedback with EVS housekeepers on monthly schedule

## RESULTS

Cleaning compliance before the start of the intervention (baseline) was 47 %. After introduction of the different intervention measures, cleaning compliance increased to 75 % within 3 months.

During the first maintenance phase (M1), where feedback was given quarterly, compliance fell to 55.8 %, almost as low as baseline levels. With monthly feedback in maintenance phase 2 (M2), compliance increased to approximately 70-75 %. Changing the monthly feedback to face-to-face meetings in maintenance phase 3 (M3) increased cleaning compliance even more (>80 %) (see figure 1). Direct feedback immediately after room sampling decreased cleaning compliance to <70 % in maintenance phase 4 (M4). In maintenance phase 5 (M5), monthly feedback in the form of face-to-face meetings was resumed and compliance increased again to over 80%.

**Figure 1: Effect of the project on cleaning compliance (%)**



## CONCLUSION

Improvement in environmental cleaning can be rapidly realized utilizing a multimodal intervention. Sustained performance can be achieved best by a combination of immediate individual feedback and monthly reporting in direct face-to-face meetings with frontline personnel.

