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Abstract (poster session)

**Do hand-hygiene product dispensers equipped with counting devices improve sustainability of hand-hygiene training sessions?**

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**Objectives:** Improving hand hygiene compliance is a constant challenge in infection control. Particularly obtaining sustainable effects tends to be difficult and technological tools creating data for feedback on hand hygiene performance might be helpful. We investigated the impact of hand hygiene product dispensers equipped with a digital counting device (HPD-Cs) on hand hygiene frequency and sustainability of training sessions. **Methods:** Paired operative or multidisciplinary intensive care units (ICUs) in University Hospitals were equipped with HPD-Cs (referred to as non-feedback and feedback ICUs, respectively). Initially, the counters were concealed. Baseline data on numbers of hand hygiene actions performed and number of patient-days were collected for 4 weeks in both groups (week -4 to -1). Medical staff of non-feedback ICUs received standardised training sessions on hand hygiene (starting week 0) followed by 20 weeks of data collection without further interventions. On feedback ICUs counters were disclosed as an option for independent feedback at week 0. After 4 weeks of data collection staff was trained (starting week 4), including presentation of collected data and definition of an individual target frequency for hand hygiene. This was followed by 16 weeks of data collection with weekly feedback of targeted vs. actual performance. **Results:** 2 University Hospitals (4 ICUs) were included into the analysis. Mean baseline rates were 49 hand disinfections performed per patient-day (HD/PD) in non-feedback and 35 HD/PD in feedback ICUs. Non-feedback ICUs showed a rather stable hand hygiene frequency after training sessions (week 0-3), followed by a marked decrease in HD/PD resulting in a reduction of about 30% compared to baseline. Feedback ICUs showed a rather stable frequency of hand hygiene with disclosed counters (week 0-3). After start of training and weekly feedback in week 4, hand hygiene frequency steadily increased to a maximum rise of 18.5% on week 14 as compared to baseline. This was followed by a decline stabilising at baseline level (week 18-20). **Conclusion:** Performing training sessions or disclosing counting devices only showed no sustainable promotional effect on hand hygiene. Combining training and feedback of data showed a considerable increase in hand hygiene frequency and prevented a decline as extensive as seen in non-feedback ICUs. Our baseline might be overestimated as installation of HPD-Cs by itself could have influenced hand hygiene frequency.

**Relative change in hand hygiene frequency (hand-disinfections performed per patient-day) compared to baseline**

