The Iowa Disinfection Cleaning Project: Opportunities, Successes and Challenges of a Structured Intervention Project in 56 Hospitals

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Background

Studies have shown that cleaning thoroughness improves when infection preventionists (IPs) use a fluorescent marker to objectively assess cleaning and give environmental services (ES) staff feedback. We evaluated whether this program could improve cleaning efficacy across Iowa.

Methods

We evaluated the efficacy of disinfection cleaning of 14 standardized environmental surfaces after patient transfer or discharge before and after an intervention in 56 Iowa hospitals (15-415 beds). We used a fluorescent targeting system (DAZO®) to objectively quantify cleaning. IPs covertly marked surfaces and used UV light to assess pre-intervention (baseline) cleaning efficacy. IPs again assessed cleaning after ES staff saw a standardized educational presentation (Phase II) and after IPs fed back cleaning efficacy results to ES staff (Phase III). We used interviews and questionnaires to obtain information on facilitators and barriers for the project.

Results

Opportunities and Success: At baseline, the fluorescent target was removed from 60% (95% CI = 56.7 to 64.4) of 15,658 standardized environmental surfaces during terminal cleaning and were considered cleaned (Figure). 41 hospitals completed Phase II interventions and reached a cleaning efficacy of 83% (95% CI = 77 to 84.3). 20 hospitals provided ≥1 cycle of performance feedback to ES staff (Phase III). These hospitals achieved a cleaning efficacy of 89% (95% CI = 84.6 to 93.1). 6 hospitals that maintained the program beyond the planned study period had a cleaning efficacy of > 90% after 38 months. IPs at 20 hospitals that completed Phase III noted that: All ES staff valued the program (20); senior management were enthusiastic (11, 55%); ES now defined their work as improving patient safety (10, 50%).

Challenges: Unfortunately, half the sites withdrew from the project following baseline data collection (Phase I). Although several sites did not continue the project due to their very high level of cleaning thoroughness at baseline, most of the sites that dropped out did so due to lack of administrative support or competing infection preventionist work load priorities. Several sites dropped out of the program following education alone (Phase II) as a result of their deciding that their high level of cleaning thoroughness could not be further improved upon.

Conclusions

ES departments achieved high cleaning efficacy (mean 89%) with a standardized programmatic intervention using a fluorescent marker, an education program and objective feedback of performance to ES staff in 20 hospitals that completed Phases I-III. Unfortunately, 50% of hospitals could not finish the study because resources were limited. Our findings support the value of monitoring environmental cleaning as recommended by CDC in 2010 but to reap these benefits, hospitals must provide appropriate resources for such programs.

Reference