MROs to prevent nosocomial transmission is controversial, and adult data show that standard precautions might suffice for select MROs. Data in pediatrics are lacking, and isolation practices vary between institutions. After literature review and benchmarking with peer institutions, we sought to decrease the amount of time patients in our institution with MROs spent on CP. We aimed to decrease the proportion of inpatient days on CP for patients with MROs while maintaining or decreasing the rate of healthcare associated (HA)-MROs. **Methods:** Between -12/, we completed a series of plan-do-study-act cycles. These included (1) major MRO policy update with new de-isolation criteria (Table 1), (2) frontline provider education, and (3) implementation of a secondary clinical review by infection prevention and control (IP&C) medical director, to appropriately expedite the removal of undue isolation of patients with MRO infection status. Eventually, infection preventionists no longer needed a secondary review, so the fourth PDSA cycle eliminated that secondary review. Our outcome measure was proportion of inpatient days in CP for patients with MROs. Our process measure was the number of medical director case reviews/month; balancing measure was number of total HA-MRO, HA resistant gram-negative rods (GNR) and HA Methicillin-resistant Staphylococcus aureus (MRSA)/month. Data were monitored on statistical process control charts. **Results:** Proportion of MRO isolation days decreased from 4.5% to 2.6% (figure 1). Number of medical director secondary reviews increased and was sustained for 8-months until no longer required (figure 2). No center line shifts were noted in the?rate of HA-MROs (figure 3). **Conclusion:** Shortening the duration of CP for select MROs can be safely implemented and did not increase HA-MDRO rate in our children's hospital.

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Presentation Type:
Poster Presentation
Subject Category: Product Evaluation
Randomized Crossover Simulation Evaluation of Human-Factors–Driven PPE Ensembles for Isolation Care‡

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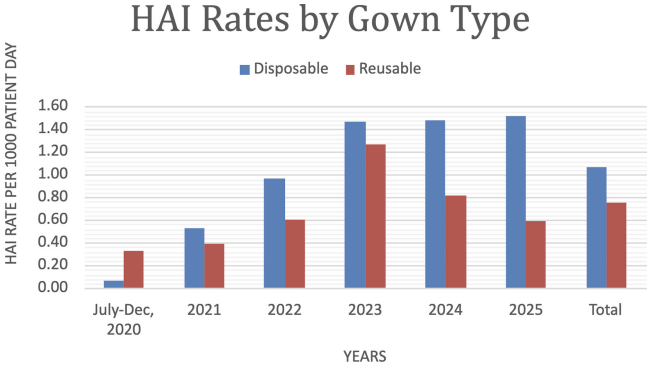
Background: During outbreaks of emerging infectious diseases, healthcare personnel (HCP) safety depends not only on PPE availability but also on correct donning and doffing. In real-world isolation care, inconsistent guidance, product variability, and workflow constraints contribute to self-contamination risk. Human-factors–driven PPE ensembles were developed and their performance was evaluated through a series of standardized, simulation-based randomized crossover studies. **Methods:** Three randomized crossover simulation studies were performed among HCP to evaluate PPE performance. The first study compared existing Level C/D PPE ensembles with prototype PPE ensembles during simulations (n=40). Participants performed two donning–simulation–doffing sequences with randomized PPE order, and self-contamination was assessed using fluorescent markers and ultraviolet light. Based on findings from the first study, the PPE ensembles were iteratively refined and re-evaluated in a second randomized crossover simulation focused on post-refinement performance among returning participants (n=29). A third randomized crossover simulation assessed the effect of structured donning/doffing education and brief coached practice when using the refined PPE ensembles compared with existing PPE among PPE-na HCP (n=20). Outcomes included objective self-contamination events, perceived protection, usability (donning, working, doffing), overall satisfaction, confidence, and intention to use. **Results:** In the initial randomized crossover simulation (n=40), self-contamination after doffing was observed in 42.5% of participants using existing PPE and 52.5% using the prototype PPE ensembles, despite higher perceived convenience with these ensembles (mean scores, 10-point scale: working 7.5 vs 5.9, doffing 6.6 vs 5.5). Following iterative refinement, the second simulation (n=29) demonstrated improved performance of the developed PPE ensembles, with self-contamination reduced to 37.9% compared with the initial prototype evaluation, and no severe contamination events observed. Usability ratings further improved (donning 8.0 vs 7.1, working 8.1 vs 7.5, doffing 7.8 vs 6.6), and intention to use was high (8.9/10). In the third randomized crossover simulation among PPE-na HCP (n=20), structured education and coached practice reduced self-contamination from 50% with existing PPE to 35% with the developed PPE ensembles and substantially improved usability (donning 8.6 vs 6.1, working 9.0 vs 6.4, doffing 8.4 vs 5.2) and confidence. **Conclusions:** Across three randomized crossover simulation studies, human-factors–driven PPE ensembles demonstrated improvements in usability and reductions in self-contamination. Importantly, early identification of increased self-contamination risk during prototype evaluation enabled design optimization, resulting in safer performance. Standardized simulation-based evaluation can identify early risks, guide PPE optimization, and support safer adoption of improved PPE ensembles in high-risk isolation care settings.

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Poster Presentation
Subject Category: Product Evaluation
Comparison of Healthcare-Associated Infection Rates Using Disposable and Reusable Isolation Gowns‡

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Background: Isolation gowns are one of the most used personal protective equipment worn by healthcare workers to prevent healthcare associated infections (HAIs) that can spread via direct- or indirect contact of contaminated objects. Isolation gowns are available as either reusable or disposable; however, urgent data are needed to determine whether these two gown types are associated with differences in HAI rates. Objective: To assess if respiratory and gastrointestinal viral HAI rates differ by using disposable versus reusable gowns. Methods/design: A retrospective observational analysis compared HAI rates per 1000 patient-days before and after phased implementation of reusable gowns across inpatient units from July 2020 through November 2025. to examine the significance of differences in HAI rates. Results/discussion: The analysis identified 513 HAIs, including 314 respiratory and 169 gastrointestinal viral infections. Statistically significant lower HAI rates were observed with reusable gowns compared with disposable gowns for all HAIs combined (0.75 vs. 1.07, p=0.002) and gastrointestinal HAIs (0.26 vs. 0.35, p=0.009). Lower but statistically insignificant rates were observed for respiratory viral HAIs (0.49 vs. 0.72, p=0.07). Rates were comparable or lower with reusable gown use for norovirus (0.16 vs. 0.16, p=0.98), respiratory syncytial virus (0.03 vs. 0.04, p=0.67), and influenza (0.03 vs. 0.02, p=0.72). Implementation of reusable gowns was not associated with increased respiratory HAI rates and was associated with lower overall HAI incidence. These findings suggest that



‡The abstract titles in this supplement have been corrected since original publication. A notice detailing the changes has been published at https://doi.org/10.1017/ash.2026.10802.

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