Table 1: Rubric for accuracy and completeness assessment

Accuracy		
1	completely incorrect	**Not acceptable**
2	more incorrect than correct	
3	approximately equal correct and incorrect	**Acceptable**
4	correct than incorrect	
5	completely correct	
Completeness		
1	addresses no aspect of the question, and the answer is not within the topic queried	**Not Acceptable**
2	addresses no aspects of the question, but the answer is within the topic queried	
3	addresses some aspects of the question, but significant parts are missing or incomplete	
4	addresses most aspects of the question but missing small details	**Acceptable**
5	addresses all aspects of the question without additional information	
6	addresses all aspects of the question and provides additional information beyond what was expected	

Table 2: Acceptance rate for accuracy and completeness using median score by 3 reviewers

ACCEPTABLE ACCURACY = 3 or ABOVE					
		SOURCE 1	SOURCE 2	SOURCE 3	SOURCE 4
Duration of isolation for various pathogens (N=16)	A	87.5	93.8	75	87.5
HCP exposures (N= 9)	B	88.9	100	100	100
Patient exposures (N=4)	C	50	100	100	100
Handling of room after patient was cared for (N=2)	D	100	100	100	100
ACCEPTABLE COMPLETENESS = 4 or ABOVE					
		SOURCE 1	SOURCE 2	SOURCE 3	SOURCE 4
Duration of isolation for various pathogens	A	43.75	56.25	75	75
HCP exposures	B	88.9	55.55	77.77	100
Patient exposures	C	50	100	100	100
Handling of room after patient was cared for	D	50	100	100	100

of hospital epidemiology handles consultation calls and records each question and answer. Using 2022 data, we selected 31 frequently asked questions. We utilized four AI tools, including Chat GPT-3.5 and 4.0, Bing AI, and OpenEvidence, to generate answers. We predefined scales (Table 1) to capture responses by three reviewers, including two hospital epidemiologists and one infection preventionist. The mean score of ≥ 3 and ≥ 4 was considered acceptable in accuracy and completeness, respectively. We reported the percentage of responses with acceptable accuracy and completeness out of assessed questions for each category. **Results:** Among 31 questions, 16 were associated with isolation duration, 9 with healthcare personnel (HCP) exposure, 4 with cleaning contaminated rooms, and 2 with patient exposure. Regarding accuracy, most AI tools performed worse in questions about isolation duration, ranging between 75% and 93.8%. All AI tools, except OpenEvidence, had a 100% accuracy rate for HCP and patient exposure. All AI tools had a 100% accuracy rate for contaminated room handling. The highest overall acceptable accuracy rate was observed in Chat GPT-3.5. Regarding completeness, most AI tools performed worse in questions about isolation duration, ranging between 44% and 75%. All AI tools, except OpenEvidence, had a 100% completeness rate for contaminated rooms and patient exposure. The highest overall acceptable completeness rate was observed in Bing AI (Table 2). **Conclusions:** All AI tools provided reasonable answers to commonly asked IPC-related questions, although, there were variations among different tools used. AI could be used to supplement the infection control program, especially if resources are limited.

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Quantity versus Quality: Chlorhexidine Bathing Adequacy Assessments in 3 High-Risk Units

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Background: Chlorhexidine gluconate bathing (CHGB) prevents healthcare associated infections (HAIs). CHGB quality is rarely assessed; prior studies identified that concentrations of CHG can be suboptimal, particularly at the neck, and if rinsed after application. In the setting of increased HAI rates on 3 high-risk units, we evaluated CHG skin concentrations, comparing results to bathing documentation and patient reports as part of a quality improvement initiative. **Methods:** All patients admitted to 3 high-risk units were swabbed for CHG concentration testing at the neck, bilateral upper arms, and groin. Swabs were processed using a semi-quantitative colorimetric CHG assay. A threshold of 0.001875% CHG was used to determine adequacy based on prior studies. Adequacy was assessed by body site, timing of bath, and patient-reported skin care activities using Chi-square tests in SAS 9.4. Per hospital policy, all admitted patients are bathed daily with 2% CHG pre-packed wipes. Patients without a documented CHGB for the duration of the admission were excluded. **Results:** CHG testing was completed on 63 patients: 23 on medical ICU, 18 surgical ICU, 22 oncology ward, yielding 249 samples. Only ward patients could report the time of last CHGB, which agreed with nursing documentation for 12/21(57%) Adequacy by sample was no different across units: 59/88(67%) Oncology, 68/90(76%) MICU, 56/71(79%) SICU, p=0.2091. Site adequacy was different by site: neck 36/63(57%), left arm 49/62(79%), right arm 50/62(81%), groin 48/62(77%), p=0.0083. Samples taken from the 11 patients with > = 24 hours since last CHGB were more likely to be below threshold concentration: 19/47(40%) versus 47/202(23%) not adequate in the recent treatment grouping. Three patients reported showering soon after the CHGB and 8 patients used moisturizing lotion. The percent of samples below threshold for the showering patients (6/12, 50%) and lotion-users (11/32, 34%) were not significantly different from the non-showering or non-lotion using patient samples (p=0.0588 and 0.2800 respectively). **Conclusion:** In a facility with longstanding daily CHGB policies in place, 66/249 samples from 63 patients lacked adequate concentrations of CHG for optimal HAI prevention. Even in patients with recent CHGB, 23% of sites tested revealed inadequate levels of CHG, while 60% of those overdue for CHGB kept adequate concentrations. Reliable implementation strategies are required for CHGB so as to ensure maximal infection prevention impact.

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A Comparison of Variable Input Strategies used for Risk-adjustment Models of Antimicrobial Use

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