Identifying Strengths and Gaps in Environmental Services Infection Prevention Practices in Michigan Long-Term Care Facilities

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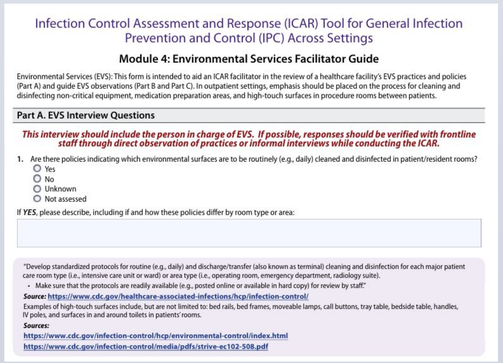
Introduction

The Infection Control Assessment and Response (ICAR) tool is a standardized assessment developed by the Centers for Disease Control and Prevention (CDC) to evaluate infection prevention practices in healthcare facilities, identify strengths and areas for improvement, and document facility characteristics, demographics and resources.[1] The assessment consists of 11 modules, each addressing a specific area of infection prevention, including environmental services (EVS).

Methods

This descriptive analysis included 23 ICAR assessments conducted at skilled nursing facilities (SNFs) in Michigan between 2024 and 2026 by the Infection Prevention Unit at MDHHS. We analyzed 38 questions from Module 4: Environmental Services (EVS) to identify strengths and opportunities for improvement in infection prevention practices. Of the 23 facilities, 19 completed the preliminary EVS policy questions and 14 completed the observational assessment questions.

For each EVS module question, we calculated the percentage of facilities answering "Yes" to adherence with CDC infection control recommendations and ranked questions accordingly. We then summarized the three highest- and three lowest-scoring preliminary policy questions and the four highest- and four lowest-scoring observational assessment questions. Findings were stratified by rurality to compare rural and urban SNFs. Geographic maps illustrated where ICARs were completed in Michigan and the average number of opportunities for improvement identified by county.



Infection Control Assessment and Response (ICAR) Tool for General Infection Prevention and Control (IPC) Across Settings

Module 4: Environmental Services Facilitator Guide

Environmental Services (EVS): This form is intended to aid an ICAR facilitator in the review of a healthcare facility's EVS practices and policies (Part A) and guide EVS observations (Part B and Part C). In outpatient settings, emphasis should be placed on the process for cleaning and disinfecting non-critical equipment, medication preparation areas, and high-touch surfaces in procedure rooms between patients.

Part A. EVS Interview Questions

This interview should include the person in charge of EVS. If possible, responses should be verified with frontline staff through direct observation of practices or informal interviews while conducting the ICAR.

1. Are there policies indicating which environmental surfaces are to be routinely (e.g., daily) cleaned and disinfected in patient/resident rooms?
   - ○ Yes
   - ○ No
   - ○ Unknown
   - ○ Not assessed

If *YES*, please describe, including if and how these policies differ by room type or area:

"Develop standardized protocols for routine (e.g., daily) and discharge/transfer (also known as terminal) cleaning and disinfection for each major patient care room type (i.e., intensive care unit or ward) or area type (i.e., operating room, emergency department, radiology suite).
- Make sure that the protocols are readily available (e.g., posted online or available in hard copy) for review by staff."

Source: https://www.cdc.gov/healthcare-associated-infections/hcp/infection-control/

Examples of high-touch surfaces include, but are not limited to: bed rails, bed frames, moveable lamps, call buttons, tray table, bedside table, handles, IV poles, and surfaces in and around toilets in patients' rooms.

Sources:

https://www.cdc.gov/infection-control/hcp/environmental-control/index.html

https://www.cdc.gov/infection-control/media/pdfs/strive-ec102-508.pdf

Figure 1. Example of the Module 4: Environmental Services Facilitator Guide from the CDC ICAR assessment tool.

Results

	Characteristic	Overall	Rural	Urban	p-value
Highest Adherence in Preliminary Questions (N = 19)	Policies for routine room cleaning/disinfection	95%	88%	100%	0.421
	Policies on cleaning/disinfection order	88%	100%	78%	0.471
	Process to indicate room/bed space cleaned	82%	83%	82%	>0.999
Highest Adherence in Observational Questions (N = 14)	Cleaning carts remain outside rooms	100%	100%	100%	-
	Appropriate PPE used for chemical/pathogen exposure	100%	100%	100%	-
	Product containers accessed only with clean wipes	100%	100%	100%	-
	All high-touch surfaces cleaned/disinfected	100%	100%	100%	-
Lowest Adherence in Preliminary Questions (N = 19)	Process for selecting cleaning/disinfection products	61%	63%	60%	>0.999
	Process to indicate equipment cleaned/disinfected	26%	13%	36%	0.338
	Process for determining minimum room cleaning time	19%	25%	13%	>0.999
Lowest Adherence in Observational Questions (N = 19)	Equipment-cleaning supplies accessible at point of care	83%	75%	88%	>0.999
	Surfaces cleaned from clean to dirty	79%	100%	67%	0.258
	Shared equipment stored clean after disinfection	67%	25%	88%	0.067
	Cleaned equipment designated as ready to use	58%	0%	88%	0.010

Figure 2. Summary of EVS adherence gaps across all facilities, with stratification by rurality. Rurality was determined by the zip code associated with each facility, converted into the RUCA score and then rurality grouping was assessed from this score. Significance testing was done utilizing the Fischer's exact test.

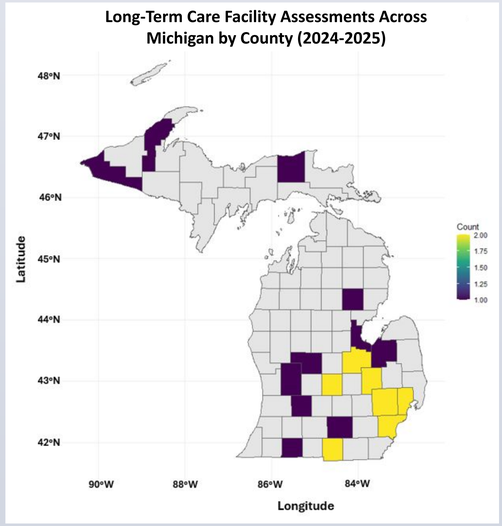


Figure 3. Map of infection control assessments completed at long-term care facilities in Michigan between 2024 and 2026. Majority of the facilities included in this analysis were in Southeast Michigan, with at least one facility assessed in many counties throughout the region.

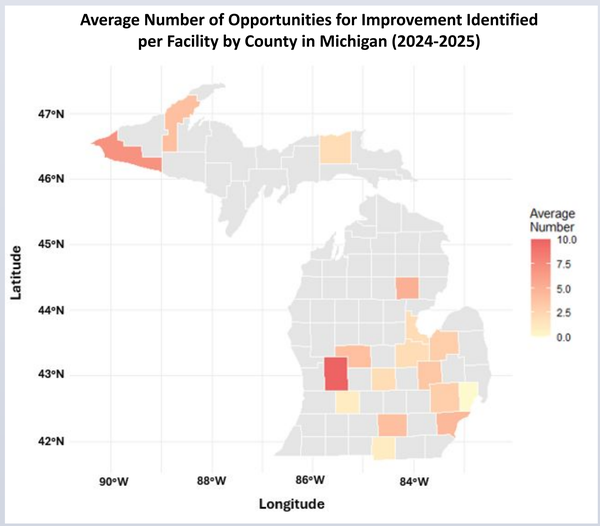


Figure 4. Map of EVS adherence gaps by county across Michigan investigated between 2024 and 2026. By county, it was generally lower in Southeast Michigan and higher in the Northwest, Northeast and Upper Peninsula regions of the state.

Conclusions

While there are many areas where long-term care facilities in Michigan have done well regarding environmental cleaning and disinfection, there is still room for improvement. Substantial gaps were identified in understanding the correct process to clean patient/resident rooms, documenting when rooms were disinfected, identifying personnel responsible for oversight and maintaining a clean, dedicated storage space for disinfected equipment. These findings suggest that facilities would benefit from more standardized protocols, clearer guidance and increased education for environmental services staff.

No significant differences were found between rural and urban facilities, suggesting these weaknesses may be widespread across Michigan. Although the limited number of facilities and incomplete ICAR assessments may have influenced the findings, this analysis identified key areas where corrective actions and process changes should be prioritized. Additional investigation involving a larger number of facilities would be needed to determine whether meaningful differences exist between rural and urban facilities. However, this analysis identified key areas for improvement that were common across all facilities, highlighting where corrective actions and process changes should be prioritized.

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References

1. Centers for Disease Control and Prevention. (2024, April 16). *Infection Control Assessment and Response (ICAR) tool for general infection prevention and control (IPC) across settings*. https://www.cdc.gov/healthcare-associated-infections/php/toolkit/icar.html

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