

Comparing Infection Prevention and Control Program Gaps During the COVID-19 Pandemic with Pre-Pandemic Assessments in Critical Access Hospitals

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BACKGROUND

- Little is known about infection prevention and control (IPC) program gaps subsequent to the COVID-19 pandemic.
- The Centers for Disease Control and Prevention (CDC) Infection Prevention and Control Assessment and Response (ICAR) tool is used to assess gaps in IPC programs.

METHODS

- The ICAR tool was used to assess 36 critical access hospitals (CAHs) between 2015-2017 and 6 CAHs in 2022.
- For analysis, the same 80 best practice recommendations (BPRs) across 11 IPC domains were analyzed between the two time periods.
- Responses were either recorded as yes (suggesting best practice is in place), no, or in-progress.
- The IPC gaps (defined as a percentage of no and in-progress responses to a BPR) were compared.

RESULTS

- The largest gaps in 2022 by domain were injection safety (71%) and environmental cleaning (60%) (Figure 1).
- The largest gaps in 2015-2017 by domain were injection safety (85%) and the prevention of central line-associated bloodstream infection (CLABSI) (76%) (Figure 1).
- Comparing 2015-2017 to 2022, the most regression occurred in the IPC program and infrastructure domain (17% vs. 47% respectively), with most notable gaps in the qualification and training of the infection preventionist (IP) (see Figure 2) and performing an annual facility risk assessment (Table 1).
- The environmental cleaning domain showed the second highest level of regression (49% vs. 60%), with most notable gaps in having clearly defined responsibilities for non-critical equipment cleaning and disinfection and having protocols ensuring personnel can identify when equipment is ready for next patient use (Table 1).
- The most improvement occurred in the CLABSI domain (76% vs. 48%), with most notable improvement in the routine auditing and feedback for central line insertion (Table 2).

Figure 1. Comparison of IPC Gaps in Critical Access Hospitals by Domain

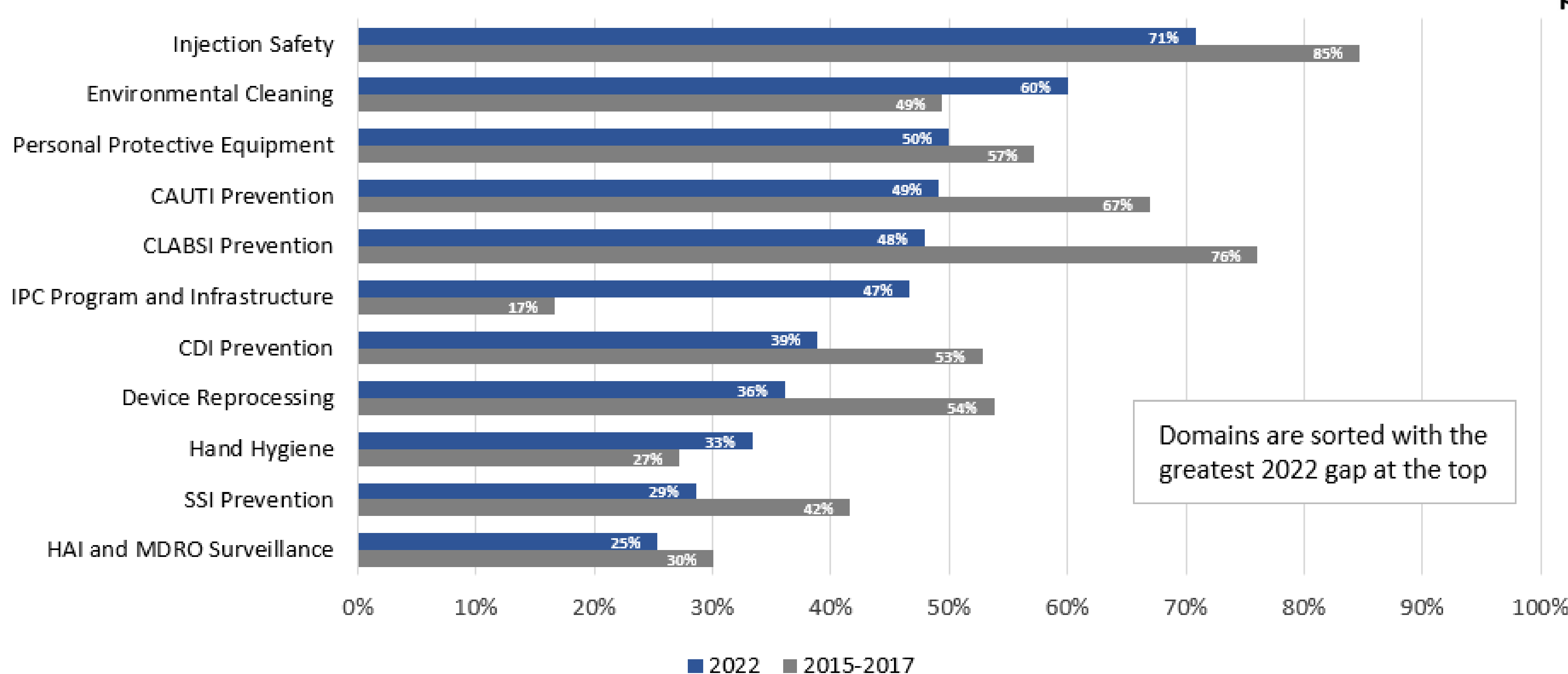
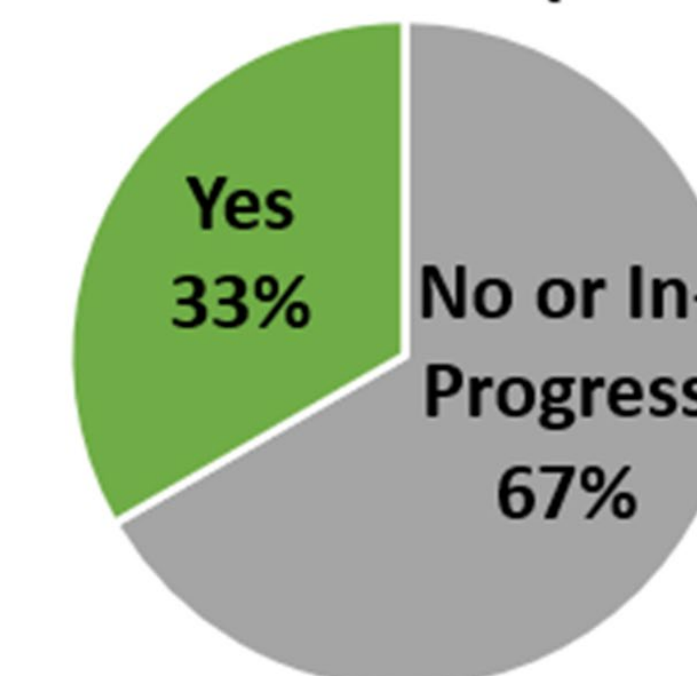


Figure 2. Person directing the IPC program is qualified and trained in infection control. (2022) (N=6)



DISCLOSURE

- Nothing to Disclose.

REFERENCES

- Centers for Disease Control and Prevention – Infection Prevention and Control Assessment Tool for Acute Care Hospitals

Table 1. Two Domains With Most Regression - Questions Asked	% of Gaps (Missing IPC Best Practices)		
	2015-2017	2022	2022 Gap Change (regression) (improvement)
IPC Program and Infrastructure	17%	47%	30%
Person(s) directing the IPC program is/are qualified and trained in infection control.	14%	67%	53%
IPC program performs an annual facility risk assessment that prioritizes potential risks for mitigation.	50%	83%	33%
Written IPC policies and procedures are available, current, and evidence-based.	6%	33%	28%
IPC program provides IP education to patients, family members, and caregivers.	14%	33%	19%
Hospital provides fiscal and human resource support for maintaining the IPC program.	0%	17%	17%
Environmental Cleaning	49%	60%	11%
Has policies that clearly define responsibilities for cleaning and disinfection of non-critical equipment and devices.	47%	83%	36%
Has protocols so HCP can readily identify equipment that has been cleaned and disinfected ready for patient use.	39%	67%	28%
Provides feedback from audits to personnel regarding their adherence to cleaning and disinfection procedures.	42%	67%	25%
Routinely audits adherence to cleaning and disinfection procedures, including following instructions for use.	47%	33%	14%
Hospital has a competency-based training program for environmental cleaning.	72%	50%	22%

Table 2. Domain With Most Improvement - Questions Asked	% of Gaps (Missing IPC Best Practices)		
	2015-2017	2022	2022 Gap Change (no change) (improvement)
CLABSI Prevention	76%	48%	28%
Routinely audits adherence to recommended practices for insertion of central line (central venous catheters).	97%	50%	47%
Provides feedback from audits to HCP regarding their performance for insertion of central lines.	97%	50%	47%
Provides feedback from audits to HCP regarding their performance for maintenance of central lines.	94%	50%	44%
Routinely audits adherence to recommended practices for maintenance of central lines.	92%	50%	42%
Has a competency-based training program for insertion of central lines.	92%	50%	42%
Has a competency-based training program for maintenance of central lines.	92%	67%	25%
Patients with central lines are assessed, at least daily, for continued need of line.	75%	50%	25%
Hospital provides feedback of CLABSI data to frontline personnel.	39%	33%	6%
Hospital monitors CLABSI data and uses it to direct prevention activities.	33%	33%	0%
Hospital has physician and/or nurse champions for CLABSI prevention activities.	50%	50%	0%

CONCLUSIONS

- The sample size is small for comparison, possibly related to the pandemic itself and competing demands for time and resources. Promotion of NE ICAP ICAR services is on-going through various means providing an open invitation to request an ICAR. Of the 63 Nebraska CAHs, during NE ICAP outreach communications, anecdotally, several IPs reported a lack of time to participate due to workload, having had an ICAR prior without need for another, or both.
- Recognizing the small sample size, this analysis highlights some increasing IPC gaps during the COVID-19 pandemic.
 - Most notable regression occurred in the qualification and training of the IP missing or in-progress in 4 of the 6 CAHs assessed. Qualification and training were met by CIC certification and/or participation in IPC training courses by a recognized professional society such as APIC, SHEA, or other regionally recognized course. Efforts to identify and eliminate barriers to ensure access to training should be prioritized.
 - During the pandemic, only 1 of the 6 CAHs had fully completed an annual facility risk assessment to help identify IPC risks and prioritize elimination or mitigation efforts. Control measures may not be adequate based on current risks.
 - Environmental cleaning experienced regression mostly attributed to a lack of well-defined responsibilities for the cleaning and low-level disinfection of non-critical equipment. Facilities should assign responsibilities and consider checklists to aid in implementation of this key IPC practice to reduce risk of pathogen transmission.
- Injection safety improved but remained the domain with the largest gaps; this domain should be prioritized because of the inherent high risk. Auditing and providing feedback still show gaps in over 80% of the facilities. Improvements were noted in competency-based training and having a drug-diversion program involving IP consultation when applicable.
- CLABSI prevention guidance previously noted large gaps related to competency-based training, auditing and feedback that were significantly improved in 2022. Various well-known measures have been established to prevent CLABSI. Continued education, competency assessment, and auditing are essential for maintaining this positive trend.
- Future efforts should focus on education and retention of IPs and supporting them with resources for overall program implementation including, but not limited to the prioritization of injection safety and well-defined cleaning and disinfection protocols with checklists. Having an IPC program with expertise and consistent adherence to best practice recommendations (BPRs) is important, especially during a pandemic.