Infection Control Risk Mitigation and Implementation of Evidence-Based Recommendations in Long-Term Care Facilities

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BACKGROUND

- Nebraska (NE) Infection Control Assessment and Promotion Program (ICAP) is supported by the Nebraska DHHS HAI program via a CDC grant and works to assess and improve infection prevention and control programs in all types of healthcare facilities.
- Other state health departments also have also implemented Infection Control Assessment and Response (ICAR) programs in their states.
- Limited data exist on the effectiveness of the ICAR program on improving infection prevention (IP) practices in healthcare facilities.
- We studied the effectiveness of the Nebraska ICAR team intervention model (peer-to-peer feedback and coaching using evidence-based guidance) on mitigating IP gaps in long-term care facilities (LTCF).

METHODS

- NE ICAP conducted on-site assessments of IC programs in 45 long-term care facilities (LTCF) between November 2015 and August 2017.
- Following the assessments, subject matter experts (SMEs) provided individualized and prioritized evidenced-based recommendations (EBR) for improvement to each facility based on their identified IP gaps.
- Using a standardized questionnaire, follow-up phone assessments were conducted with LTCF one-year post visit to evaluate implementation of the EBR and factors that enhanced or served as barriers to mitigating prioritized gaps.
- Descriptive analyses were performed to examine EBR implementation in 31 LTCF that received follow-up assessments as of June 2018 (69% of the total LTCF visited).

Table 1. Characteristics of Long-term Care Facilities

Facility Characteristics	N = 45
Hospital affiliation – n (%)	10 (22)
Bed size – median (range)	62.0 (8 - 293)
Presence of trained infection preventionist – n (%)	27 (60)
Infection prevention-related work hours per week per 100 beds – median (range)	7.1 (0 - 24.0)

Figure 1. Evidence-Based Recommendations Implemented by One-year Follow-up Assessment

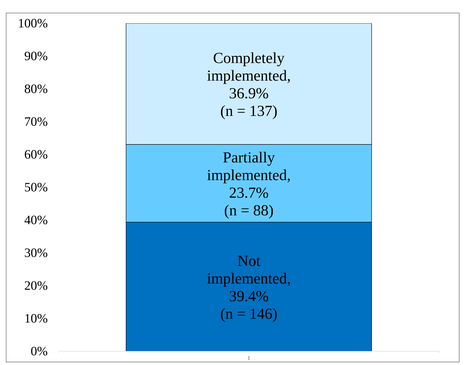

Figure 2. Enhancers and Barriers to Evidence-Based Recommendation Implementation

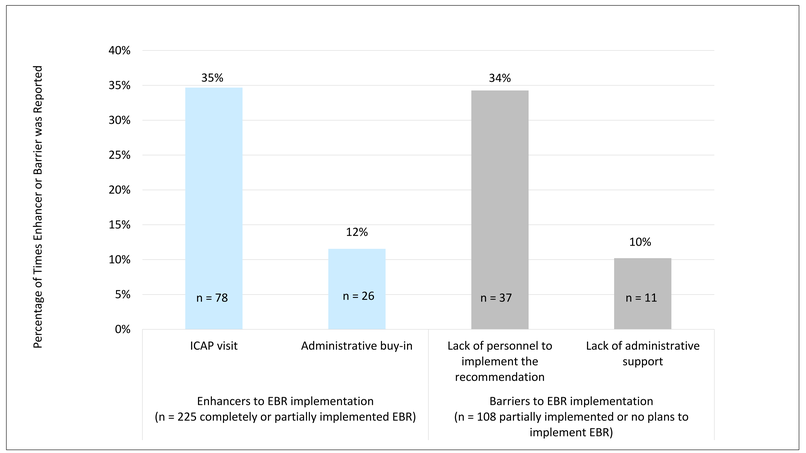

Table 2. Most Frequent Recommendations Given to at least 33% of long-term care facilities (LTCF) in 45 site visits

Top Infection Prevention Categories Requiring Recommendation for Improvement	No. (%) of overall LTCF with recommendation to mitigate the gap	No. of long-term care facilities with follow-up	No. (%) of followed up LTCF with complete implementation	No. (%) of long-term care facilities with partial implementation	Overall Implementation rate (complete and partial combined)
Lack of audits and/or feedback	28 (62%)	21	2 (10%)	12 (57%)	67%
Scarce use of personal protective equipment supplies at point of use	28 (62%)	20	1 (5%)	6 (30%)	35%
Lack of a formal facility infection control risk assessment	26 (58%)	19	3 (16%)	5 (26%)	42%
Lack of TB risk assessment/program	25 (56%)	18	8 (44%)	1 (6%)	50%
Inappropriate storage of linen and other supplies	25 (56%)	16	12 (75%)	3 (19%)	94%
Lack of Antimicrobial stewardship efforts	20 (44%)	10	0 (0%)	8 (80%)	80%
Environmental issues impeding cleaning (e.g., worn carpet/wood surfaces, chipped paint, clutter)	18 (40%)	10	3 (30%)	4 (40%)	70%
Scarcity of hand gel dispensers and/or sinks for conducting hand hygiene	17 (38%)	12	6 (50%)	2 (17%)	67%
Lack of regard for splash zone contamination	17 (38%)	9	3 (33%)	3 (33%)	66%
Lack of equipment cleaning between resident use	16 (36%)	11	6 (55%)	2 (18%)	73%
Inappropriate disinfection of nail clippers and other items shared among residents	15 (33%)	11	2 (18%)	2 (18%)	36%
Inappropriate under sink storage	15 (33%)	13	6 (46%)	3 (23%)	69%

Table 3. Most Frequently Identified Activity Involved in Implementation of Evidence-Based Recommendation

	# Times activity was reported during follow-up calls discussing 225 partially or completely implemented best practice recommendations	% Best practice recommendation implementation involving this activity
Provide additional staff training	101	45%
Review policies and procedures	69	31%
Initiate audit program	51	23%
Initiate feedback program	34	15%

Figure 3. NE ICAP Resources to Support Successful Gap Mitigation

- Practice briefs
- Educational fliers
- Tools to document training, audits and feedback
- Policies
- Protocols
- Expert guidance
- Links to additional infection control resources

RESULTS

- Overall, 45 LTCF were assessed (Table 1).
- Follow-up phone assessments were completed with 31 LTCF during which 371 EBR were discussed. Recommendations reviewed range from 3 to 26 per LTCF (median 12) receiving follow-up phone assessments (follow-up phone assessments for remaining facilities are planned to be completed by March 31, 2019).
- The majority of the 371 recommendations (n=225, 61%) were either completely or partially implemented by the time of the follow-up phone assessment (Figure 1).
- Of the 146 EBR not implemented, 89 were planned to be implemented and 20 were not planned to be implemented. Decisions were unknown for the remaining 37 EBR not implemented.
- There were 12 specific areas that required a mitigation recommendation in at least 33% of assessed LTCF (Table 2).
- The majority of these recommendations were either partially or completely implemented by most of the facilities (Table 2).
- Factors that enhanced or posed barriers to initiation or completion of implementation are presented in Figure 2.
- Implementation of EBR most frequently required additional staff training followed by review of policies and procedures (Table 3).
- Figure 3 displays resources NE ICAP shared with facilities to support successful EBR implementation.

CONCLUSIONS

- Numerous infection control gaps exist in long-term care facilities. Peer-to-peer feedback and coaching by subject matter experts (SMEs) facilitated implementation of many EBR directed towards mitigating identified gaps.
- On-site coaching from SMEs at NE ICAP raised awareness of infection control gaps not previously identified within facilities, which enhanced EBR implementation.
- The Nebraska ICAP team has created many infection prevention and control-related tools and templates based on the need identified during the site visits and the follow-up calls. These tools and many other resources are now available on the ICAP website (https://icap.nebraskamed.com).

DISCLOSURES

The authors of this study have nothing to disclose related to the content of this poster