

Implementation of the CDC's Core Elements of Antibiotic Stewardship: A Survey of Long-Term Care Facilities During the COVID-19 Pandemic

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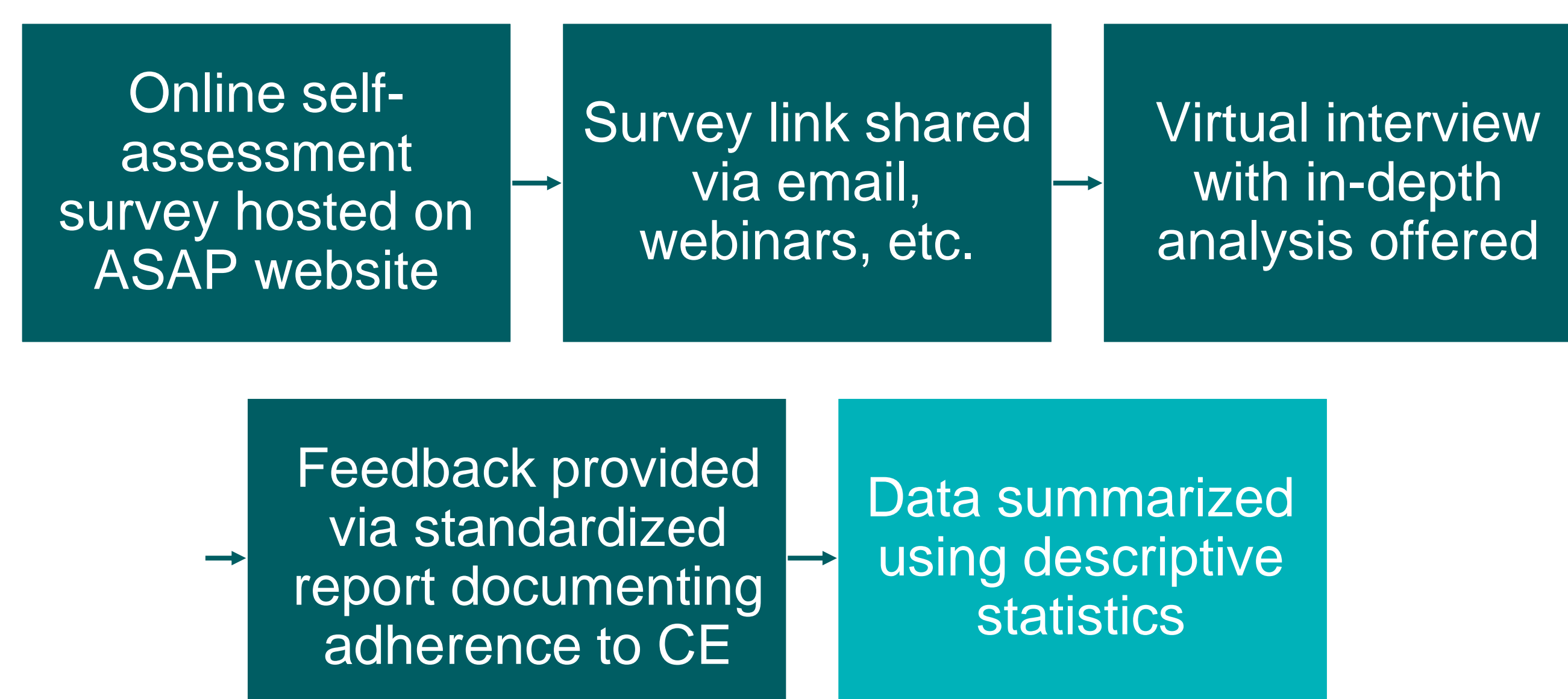


Background

- Since 2016, the Centers for Medicare and Medicaid Services (CMS) has required participating Long-Term Care Facilities (LTCFs) to have antimicrobial stewardship programs (ASPs).
- LTCFs are known to struggle with antimicrobial overuse, yet often lack the expertise and resources to implement ASPs.
- The CDC's Seven Core Elements (CE) of Antibiotic Stewardship serve as a framework for ASP implementation.
- Nebraska's Antimicrobial Stewardship Assessment and Program (ASAP) Program assists state healthcare facilities with improving their ASPs.
- **Purpose:** To evaluate current infrastructure of ASPs at LTCFs in Nebraska and identify barriers to implementation of the CDC CE.

Methods

- ASAP conducted a statewide survey of all 196 LTCFs
- Survey: <https://redcap.nebraskamed.com/surveys/?s=3HKX3R9AAH>
 - Online self-assessment survey of the CDC's CE was created using Research Electronic Data Capture (REDCap) application and hosted on the ASAP website.
 - A link to the survey was shared with each LTCF through ASAP's email distribution lists, webinars, and other meetings.
 - Per request, the survey could be followed by a virtual interview assessment, with feedback provided via a standardized report documenting adherence to core elements and detailing strategies to improve implementation.
- Data were summarized using descriptive statistics
 - A CE was considered "Not Met" if all responses were "no" for that CE. It was otherwise considered "Met" or "Partially Met."



Results

- 54 of 196 LTCFs in Nebraska responded to the survey between May 2021 and December 2022.
 - 26 facilities (48%) had all 7 CE at least partially in place (Figure 1)
 - **Reporting** and **Education** were the least likely CEs to be met (Table 1)

Results

- Among the 26 LTCFs reporting areas of antibiotic misuse at their facility, 88% of them (23 facilities) agreed that ASPs could address the issue.
- Among 24 LTCFs that reported barriers to starting or improving ASPs, **prescriber resistance** (12 facilities, 50%) and **lack of time** (7 facilities, 29%) were the most commonly identified barriers. (Table 2)

01 Leadership Commitment	<ul style="list-style-type: none"> • 27 out of 54 facilities (50%) did not have a signed statement of support for ASPs.
02 Accountability	<ul style="list-style-type: none"> • Stewardship accountability was often shared across multiple positions but was most commonly the responsibility of the Director or Assistant Director of Nursing (37 facilities, 69%).
03 Pharmacy Expertise	<ul style="list-style-type: none"> • Consultant pharmacists were the most commonly identified individuals (40 facilities, 74%) with ASP expertise available to LTCFs. • The next most common was an ASP team at a partnering hospital (22 facilities, 41%).
04 Action	<ul style="list-style-type: none"> • Only 31 facilities (57%) reported successfully implementing at least one infection-specific intervention to improve antibiotic use. • Addressing UTIs was the most commonly identified intervention (17 facilities, 31%).
05 Tracking	<ul style="list-style-type: none"> • 12 facilities (22%) did not monitor rates of <i>C. difficile</i> infection. • 16 facilities (30%) did not track antibiotic-resistant organisms (i.e. MRSA, VRE, or ESBL).
06 Reporting	<ul style="list-style-type: none"> • Only 25 out of 54 facilities (46%) provided an antibiogram within the past 12 to 24 months.
07 Education	<ul style="list-style-type: none"> • The majority of LTCFs (42 facilities, 78%) provided educational resources to nursing staff on antibiotic resistance and opportunities to improve antibiotic use. • Only 26 facilities (48%) provided these resources to their clinical providers.

- 4 LTCFs participated in virtual interview and feedback report.
 - All 4 LTCFs were encouraged to share antibiotic use data and other tracked metrics with providers and staff (**Reporting**)
 - 3 of the LTCFs were encouraged to add ID/ASP training for physician and pharmacy leaders (**Education**)

Results

Figure 1: Total Core Element Adherence

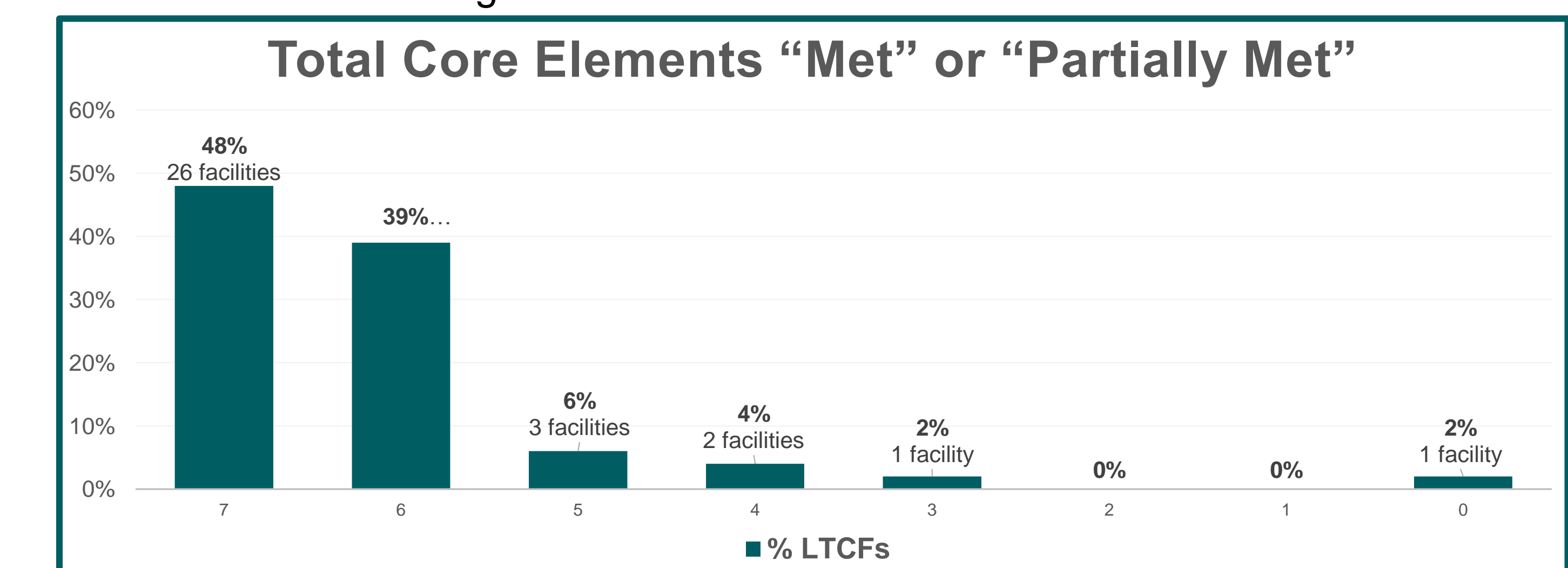


Table 1: Individual Core Element Adherence

CDC Core Elements "Met" or "Partially Met"	LTCFs N = 54
Leadership Commitment	53 (98%)
Accountability	53 (98%)
Pharmacy Expertise	48 (89%)
Action	51 (94%)
Tracking	51 (94%)
Reporting	39 (72%)
Education	39 (72%)

Table 2: Barriers to Improving ASPs

Barriers Identified	LTCFs N = 24
Prescriber resistance	12 (22%)
Nursing staff resistance	5 (9%)
Family member insistence	5 (9%)
Staff turnover	4 (7%)
Lack of staff	3 (6%)
Lack of time	7 (13%)
Lack of knowledge	5 (9%)

Conclusions

- Limitations:
 - Poor response may have been due in part to ongoing COVID-19 pandemic
 - High-performing facilities generally more likely to participate in survey, and poor-performing facilities or those lacking leaders less likely to participate
 - Very few LTCFs participated in dedicated feedback, although their results corroborated survey data about which CEs were least likely to be met
- Opportunities for ongoing improvement:
 - More leadership engagement in ASP activities at LTCFs
 - Improve tracking and reporting of CDI and antibiotic-resistant organisms (perhaps via EMR)
 - Provide education for clinical providers (MDs, PAs, NPs, Pharmacists)
- Strategies and future directions:
 - Advocate for funding to promote ASPs in LTCFs
 - Engage more LTCFs in ASP activities and targeted feedback
- Conclusions:
 - Implementation of CE remains low in LTCFs
 - The findings highlight barriers to implementing ASPs in LTCFs, as well as opportunities for improvement.

References

- Centers for Medicare and Medicaid Services. Medicare and Medicaid Requirements: Reform of Requirements for Long-Term Care Facilities. Oct 2016. <https://www.pbc.org/wp-content/uploads/2016/10/AHCA-Requirements-of-Participation.pdf>
- Centers for Disease Control. Core Elements of Antibiotic Stewardship for Nursing Homes. <https://www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html>