

Characteristics of Nursing Homes associated with self-reported implementation of Centers for Disease Control and Prevention (CDC) Core Elements of Antibiotic Stewardship

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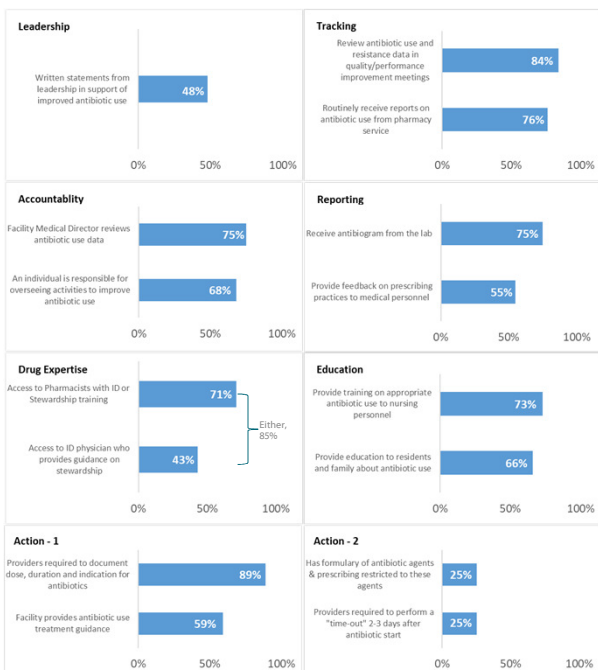
BACKGROUND

- CDC released the Core Elements of Antibiotic Stewardship (Core Elements) for Nursing Homes (NH) in 2015¹
- In 2017, CDC's Emerging Infections Program (EIP)² evaluated uptake of the Core Elements in a cohort of NH

METHODS

- From April-Oct 2017, NH in CA, CO, CT, GA, MD, MN, NM, NY, OR, & TN were randomly selected to participate in 1-day antimicrobial use point prevalence survey
- EIP staff contacted NH for enrollment, participation was voluntary
 - 161 NH enrolled
 - 137 declined or dropped out
- CDC questionnaire on NH implementation of 15 activities in 7 Core Element domains
 - Completed by Medical Director, Director of Nursing or Infection Preventionist
- Number, percent of NH reporting "Yes" to each activity and facility stewardship score (1 point per activity) was calculated
- Associations between facility-level factors, (from CDC questionnaire or CMS NH quality data³) and stewardship score identified
 - Analysis of Variance in SAS 9.4
 - p-value <0.05 considered significant

Self-reported implementation of 15 activities in 7 domains of the CDC Core Elements, 161 NH respondents



Distribution of facility stewardship score



Factors associated with stewardship score

Facility-level factor*	P-value
Ownership: For-profit, not for-profit, Government	0.6623
Number certified beds: Continuous, range 12-540	0.5656
Average daily census: Continuous, range 10-495	0.7874
Infection Preventionist (IP) full time Yes, No	0.1132
IP completed certified* training course: Yes (56), No (101)	0.0296
CMS staffing score: 1-5 points	0.3436
Number attending physicians per 100 beds: Top vs lower 3 quartiles	0.0293
CMS Overall NH Score: 1-5 points	0.5489
CMS Quality Measure Score: 1-5 points	0.0296
CMS measure - percent long-stay residents with UTI: Continuous 1-100	0.3606

*Only selected factors analyzed shown in table
#SHEA, APIC or State Health Department certification

CONCLUSIONS

- NH have begun to implement recommended stewardship policies & practices
- >80% of NH self-reported
 - Drug expertise: Access to Pharmacist or ID Physician for stewardship guidance
 - Tracking: Review antibiotic use/resistance data
 - Action: Require documentation of dose, duration, indication
- Only 25% of NH self-reported
 - Action: Formulary with prescribing restrictions
 - Action: Use of antibiotic "time-out"
- Improved understanding of facilitators, barriers to implementation can
 - Inform stewardship initiatives
 - Identify NH for stewardship interventions
 - Accelerate adoption of stewardship

CONTACT INFO & REFERENCES

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- CDC Core Elements of Antibiotic Stewardship for Nursing Homes www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html
- CDC Emerging Infection Program (EIP) Healthcare-Associated Infections-Community Interface (HAIC) www.cdc.gov/hai/eip/index.html
- Centers for Medicare & Medicaid (CMS) - Nursing Home Compare datasets data.medicare.gov/data/nursing-home-compare



National Center for Emerging and Zoonotic Infectious Diseases
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