assess whether reductions in antibiotic use predict later reductions in antibiotic resistance and improvements in resident outcomes.

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2050. Effect of a Stewardship Intervention on Post-Prescriptive Antibiotic Timeouts in Nursing Homes

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Background. Antibiotic overuse and misuse is a common problem in nursing homes (NHs). Meaningful improvements in the quality of antibiotic prescribing in NHs may be improved through post-prescriptive interventions (antibiotic timeouts) focused on stopping, streamlining and/or shortening ongoing antibiotic treatments. A recently completed trial of a complex antibiotic stewardship intervention provided us with an opportunity to explore to what extent NH providers engaged in antibiotic timeouts at baseline and the effects of the intervention on these behaviors.

Methods. Data on antibiotic prescriptions in 11 NHs (6 intervention, 5 control) were collected for 12 months prior and 13 months after intervention introduction. We categorized antibiotic change events (ACEs) as: (1) changes in dose, frequency, or route for the same antibiotic, (2) change to another antibiotic with different spectrum, and (3) early discontinuation (stopped after 2 days or less). Modifications considered to be routine (e.g., Azithromycin dose reduction from 500 to 250 mg) were not considered a meaningful ACE. Frequency of ACEs both overall and by type were compared using a difference in difference (DID) approach.

Results. Of 2647 NH initiated antibiotic events, 376 (14.2%) were modified over the study period. The most common type of modification was a change in spectrum (n = 241, 64.1%) followed by early discontinuation of the antibiotic (n = 118, 31.4%). The difference in ACEs before and after the intervention as well as DID estimates are detailed in the Table.

Conclusion. The antibiotic stewardship intervention did not impact total ACEs but did appear to increase the frequency of discontinuation ACEs. An inability to capture data on shortening ACEs (e.g., reducing a treatment course from 14 to 7 days) was a limitation of this study. Additional research on how to foster more frequent and effective antibiotic timeouts in NHs is needed.

	PRE		PRE-Difference	p-value	POST		POST Difference	p-value	DID	p-value
	Intervention	Control			Intervention	Control				
No. of antibiotic event	764	559			724	580				
	%	%	%		%	%	%			
Event modified, n=376	0.179	0.120	0.059	0.024*	0.146	0.110	0.036	0.156	-0.024	0.409
Spectrum, n=241	0.124	0.073	0.051	0.081	0.084	0.073	0.012	0.531	-0.039	0.153
Early stop, n=118	0.045	0.043	0.002	0.922	0.057	0.031	0.027	0.019*	0.025	0.014*

* p<0.05

Disclosures. **All authors:** No reported disclosures.

2051. Frequency of Inappropriate Antibiotic Prescribing in Nursing Homes

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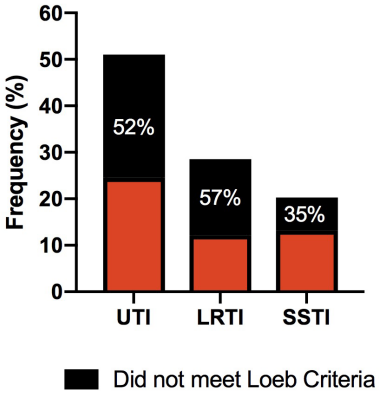
Background. Antibiotics are among the most prescribed medications in nursing homes (NHs). The increasing incidence of multidrug-resistant and *C. Difficile* infections due to antibiotic overuse has driven the requirement for NHs to establish antibiotic stewardship programs (ASPs). However, estimates of the frequency of inappropriate antibiotic prescribing in NHs have varied considerably between studies. We evaluated the frequency of inappropriate antibiotic prescribing in a multi-state sample of NHs.

Methods. We utilized a retrospective, (20%) random sample of residents of 17 for-profit NHs in Oregon, California, and Nevada who received antibiotics between January 1, 2017 and May 31, 2018. Study NHs ranged in size from 50 to 188 beds and offered services including subacute care, long-term care, ventilator care, and Alzheimer's/memory care. Data were collected from residents' electronic medical records. Antibiotic appropriateness was defined using Loeb Minimum Criteria for initiation of antibiotics for residents with indications for lower respiratory tract infection (LRTI), urinary tract infection (UTI) and skin and soft-tissue infection (SSTI). Residents with other types of infections were excluded from the study.

Results. Among 232 antibiotic prescriptions reviewed, 61% (141/232) were initiated in the NH. Of these, 65% were for female residents and 81% were for residents above the age of 65. Nearly 70% (98/141) of antibiotic prescriptions were for an indication of an LRTI, UTI, or SSTI of which 51% (57% of LRTIs, 52% of UTIs, and 35% of SSTIs) did not meet the Loeb Minimum Criteria and were determined to be inappropriate. Among antibiotics that did not meet the Loeb Minimum Criteria, more than half were cephalosporins (40%) or fluoroquinolones (14%) and the median (interquartile range) duration of therapy was 7 (5–10) days.

Conclusion. These data from a multi-state sample of NHs suggest the continued need for improvement in antibiotic prescribing practices and the importance of ASPs in NHs.



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2052. Characterizing Nursing and Provider Social Networks to Develop an Instrument to Improve Antibiotic Stewardship Efforts in Nursing Homes

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Background. Inappropriate antibiotic use is a common problem in nursing homes (NHs). Antibiotic decision-making in NHs is complex. Characterizing the patterns and nature of social interactions between providers and nursing staff may offer insights into the factors influencing antibiotic decisions and opportunities to improve their quality in NHs.

Methods. Chart reviews and interviews with key informants were used to identify social interactions between nursing staff and providers associated with antibiotic prescribing decisions in three NHs. Data collection was restricted to provider-nurse exchanges following a resident change in condition recognition up to receipt of an order for an antibiotic. A survey administered to nursing staff was used to collect information on employment tenure and their perceptions about facility team climate. UCINET software was used to describe network characteristics, including density and centrality.

Results. Urinary tract infections (UTIs) accounted for nearly 40% of antibiotic events across all sites. The number of contacts between nursing staff and providers was approximately two-times greater for treated UTI events when compared with treated soft-tissue infections and were four-times as great as for treated pneumonia events. Network structures were different at each study NH with varying numbers of core team members and network density (Figure 1). Team climate survey responses across SNFs demonstrate generally positive climates (4.1 on a scale of 1 to 5, 5 reflects positive).

Conclusion. NHs have unique network structures; however, more complex social interactions associated with UTI events were common across all sites. Future studies should examine influences of different social network structures on antibiotic decision-making in NHs and whether modification of network structures or their characteristics is amenable to change.

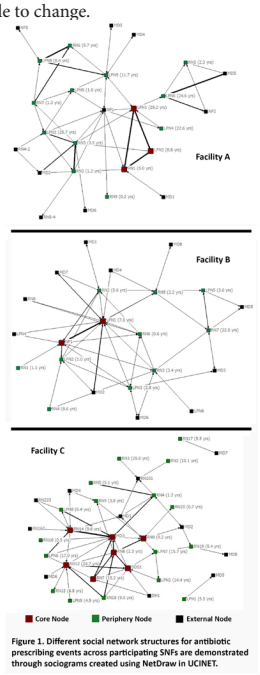

Figure 1. Different social network structures for antibiotic prescribing events across participating SNFs are demonstrated through sociograms created using NetDraw in UCINET.

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