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**Background.** Antimicrobial Stewardship Programs (ASPs) in long-term care facilities is a Centers for Medicare and Medicaid Services requirement as of 2017. The CDC recommends that ASPs in skilled nursing facilities (SNFs) fulfill 7 Core Elements: leadership commitment, accountability, drug expertise, action, tracking, reporting and education.

**Methods.** An electronic survey utilizing REDCap was sent to the 76 Chicago SNFs representatives (Administrator, Director of Nursing, and/or Assistant Director of Nursing). Survey questions were adopted from the CDC Core Elements of Antimicrobial Stewardship for Nursing Homes Checklist.

**Results.** Twenty-seven (36%) of Chicago SNFs responded. Bed size ranged from 36 – 307 (median 150). Although 93% of facilities had a written statement of leadership support for antimicrobial stewardship, only 22% cited any budgeted financial support for antimicrobial stewardship activities. While Pharmacist Consultants visited all SNFs (most visiting monthly), only 33% of SNFs had an Infectious Disease Provider that consulted on-site. Dedicated time for antimicrobial stewardship activities was less than 10 hours per week in 78% of facilities, with half of all respondents reporting less than 5 hours per week. Treatment guidelines were in place for 63% of SNFs, 56% had an antibiogram, and only 7% utilized the Loeb criteria to guide appropriate antibiotic prescribing. Many facilities tracked antimicrobial stewardship metrics (93%) and reported out to staff (70%). Annual nursing training on antimicrobial stewardship occurs more frequently (85%) than prescriber education (56%). The top 3 barriers identified in implementing ASPs were financial limitations (33%), lack of clinical expertise (33%), and provider opposition (30%). Facilities' compliance in all seven core elements varied from partially compliant (65%), majority compliant (19%), and majority non-compliant (16%).

**Conclusion.** Data from this baseline survey informed focused antimicrobial stewardship initiatives for the GAIN Collaborative. Targeted areas to incorporate into facility action plans include treatment guideline development, antibiograms, annual staff antimicrobial stewardship education, and adoption of the Loeb minimum criteria for antibiotic prescribing into clinical practice.

Table 2: Results of Antimicrobial Stewardship Survey for Chicago Skilled Nursing Facilities (N=27)

Question	Yes (%)	No (%)
SNF has a written statement of leadership support for antimicrobial stewardship	93	7
SNF has a budgeted financial support for antimicrobial stewardship activities	22	78
Pharmacist Consultants visit all SNFs	100	0
SNF has an Infectious Disease Provider that consults on-site	33	67
SNF has dedicated time for antimicrobial stewardship activities	22	78
SNF has treatment guidelines in place	63	37
SNF has an antibiogram	56	44
SNF utilizes the Loeb criteria to guide appropriate antibiotic prescribing	7	93
SNF tracks antimicrobial stewardship metrics	93	7
SNF reports out to staff	70	30
SNF has annual nursing training on antimicrobial stewardship	85	15
SNF has prescriber education	56	44
SNF has barriers to implementing ASPs	33	67
SNF has financial limitations	33	67
SNF has lack of clinical expertise	33	67
SNF has provider opposition	30	70

Figure 2: Chicago Skilled Nursing Facility Compliance with 7 CDC Core Elements of Antimicrobial Stewardship Programs (N=27)

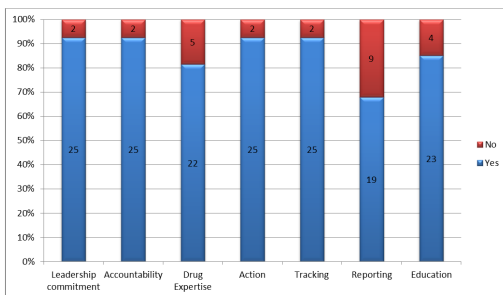


Figure 3: Compliance with Various Action Item Antimicrobial Stewardship Interventions at Chicago SNFs (N=27)

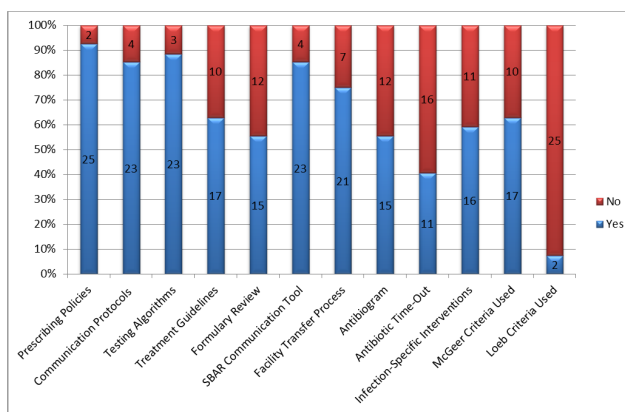
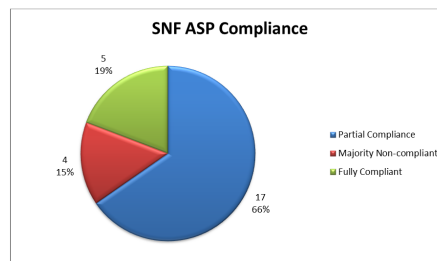


Figure 4: Survey Respondent Perceptions of Chicago Skilled Nursing Facility Antimicrobial Stewardship Program's Extent of Compliance with CDC Core Elements



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

### 2046. A Qualitative Study on Perceived Barriers and Facilitators of Implementing an Antimicrobial Stewardship Intervention in the Management of Urinary Tract Infections in a Long-Term Care Setting

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**Background.** 50% of antibiotic courses in long-term care facilities (LTCFs) are unnecessary, leading to increased risk of harm such as *Clostridioides difficile* infection and antibiotic-resistant organisms. Antimicrobial stewardship (AS) interventions play an important role in optimizing antibiotic use. Most studies addressing strategies to improve antibiotic prescribing in LTCFs showed modest and unsustainable results. We aimed to identify facilitators, barriers and strategies in implementing a urinary tract infection (UTI)-focused AS intervention at an LTCF in Toronto.

**Methods.** A qualitative approach using conventional content analysis was used. Through purposeful sampling, we recruited different LTCF healthcare providers and administrators at Kensington Gardens. Interviewees attended focus groups or one-on-one interviews. Data were collected using a semi-structured interview guide. Data were analyzed inductively using a codebook modified in an iterative analytic process. Barriers and facilitators with potential strategies were summarized and mapped using the COM-B (capability, opportunity, motivation and behavior) model (Mitchie et al.) and emerging themes identified.

**Results.** Sixteen participants were interviewed. The most common barriers were family pressure, lack of access and test result delay while the barrier themes were lack of access, inadequate communication, lack of time and lack of knowledge of both HCPs and resident's families. These can be addressed by the most common facilitators and facilitator themes, which included good communication between healthcare professionals (HCPs), education for HCPs and families and collaboration between HCPs. Most barriers and facilitators were mapped to the opportunities domain of the COM-B model.

**Conclusion.** Strategies for improved UTI-focused antimicrobial stewardship intervention in LTC setting should focus on increasing opportunities and innovative formats for education, communication and collaboration among HCPs and with families although barriers and facilitators in all aspects of the COM-B model were identified.

Table 1. Top 10 Barriers and Strategies Identified

Top 10 Barriers	Strategies
Family pressure	<ul style="list-style-type: none"> <li>Education for resident's family</li> <li>Educational handouts</li> <li>Physical presence of HCPs</li> <li>Availability of HCPs for discussions</li> <li>Discussing expectations and care plans</li> </ul>
Lack of access to information for HCPs	<ul style="list-style-type: none"> <li>Resident's symptoms listed online</li> <li>Lab to call back for all types of urine culture results (positive, negative, contaminated)</li> <li>Create LTC-specific antibiogram</li> <li>Access to resident's information for on-call physician</li> </ul>
Test result delay	<ul style="list-style-type: none"> <li>Shorter turnaround time for urine culture results</li> <li>Streamline process of urine culture results communicated to nurses</li> <li>Online access to lab results</li> </ul>
Heavy workload	<ul style="list-style-type: none"> <li>Address staff shortage</li> <li>Reduce resident's family's expectations for non-clinical care</li> <li>Assign casual staff to the same floor/resident</li> <li>Hire more PCAs**</li> </ul>
Lack of communication	<ul style="list-style-type: none"> <li>Hospitals to share information for transferred residents</li> <li>Lab to call back for all types of urine culture results (positive, negative, contaminated)</li> <li>Avoid using the nurse as the middle person in conveying messages between physician, pharmacist and resident's family</li> </ul>
Patient factors hindering appropriate UTI diagnosis	<ul style="list-style-type: none"> <li>Establish resident's baseline (cognition, functional ability, urine culture colonization)</li> <li>Reassess resident's baseline regularly</li> <li>Clarify resident's antibiotic allergies on admission</li> </ul>
Bias of HCPs*	<ul style="list-style-type: none"> <li>Education on UTI symptoms and diagnosis</li> <li>Create a checklist of UTI signs and symptoms</li> <li>Physician to explain rationale for his further workup</li> <li>HCPs to have an open mind to listen to different perspectives</li> </ul>
Inadequate time	<ul style="list-style-type: none"> <li>Address staff shortage</li> <li>Increase trust of resident's family in interprofessional team to save time for physicians in joining discussions</li> </ul>
Knowledge of HCPs*	<ul style="list-style-type: none"> <li>Regular education for regular and casual staff on UTI diagnosis and management</li> </ul>
Physical presence of HCPs*	<ul style="list-style-type: none"> <li>Physicians to increase time spent discussing options and care plan with resident's family</li> <li>Pharmacist to be present at time of prescribing</li> </ul>

HCPs: healthcare professionals  
\*PCAs: personal care attendants

Table 2. Top 10 Facilities and Business Identifier

Facility/Business Identifier	Top 10 Facilities	Business Identifier
Non-communication between provider	<ul style="list-style-type: none"> <li>Use of SBAR** for nursing communication</li> <li>PCAs to communicate changes to resident baseline to nurses</li> <li>Use of phone and messages to connect between HCPs, i.e. physicians from pharmacy to nurses regarding updates and data discrepancies</li> <li>Get to pharmacist when there is a UTI workup</li> </ul>	<ul style="list-style-type: none"> <li>Highlight how everyone can play a role in facilitating change in resident's baseline</li> <li>Expand on source of information on residents when there is a change in baseline</li> <li>Using an HCP champion to guide families through UTI diagnosis and management</li> <li>Using a collaborative understanding of resident's care plan</li> </ul>
Education for HCPs	<ul style="list-style-type: none"> <li>Organize case studies for team discussion from clinical staff</li> <li>Train PCAs and nurses to identify acute symptoms and changes in resident condition (diagnostic programs)</li> <li>Education for all: <ul style="list-style-type: none"> <li>Antibiotic stewardship as an essential skill</li> <li>Emergency, basic, first, and non-emergency situations in resident's baseline</li> <li>Special assessments and consequences of inappropriate antibiotic use</li> <li>How to interpret an antibiogram</li> <li>Standardized communication for UTI workup and management</li> <li>Standardize common antibiotic prescribing</li> <li>Standardize antibiotic options</li> <li>Standardize antibiotic stewardship programs</li> </ul> </li> <li>HCPs to attend continuing education courses regularly</li> </ul>	<ul style="list-style-type: none"> <li>HCPs can have a good grasp of changes in resident's baseline and communicating this to the nurses</li> <li>Antibiotic stewardship as an essential skill</li> <li>Standardize common antibiotic prescribing</li> <li>Standardize antibiotic options</li> <li>Standardize antibiotic stewardship programs</li> </ul>
Communication between nurses	<ul style="list-style-type: none"> <li>PCAs to communicate changes to resident baseline to nurses</li> <li>Regular, low, and nurse-to-nurse call, play a role in facilitating change in resident's baseline</li> <li>Inclusion of pharmacist in the physician care team in UTI workup</li> <li>Home-based review of antibiotic stewardship and lab for workup</li> <li>Review of UTI cases with the healthcare team</li> </ul>	<ul style="list-style-type: none"> <li>Nurse practitioner can do close collaboration with families in the morning</li> <li>Pharmacist regularly involved in antibiotic stewardship program</li> <li>Physicians to increase time spent with families discussing antibiotic for workup and care plan</li> </ul>
Education for resident's family	<ul style="list-style-type: none"> <li>Education on UTI symptoms and diagnosis</li> <li>Consequences of inappropriate antibiotic use</li> <li>Standardized communication for UTI workup and management</li> <li>Standardize common antibiotic prescribing</li> <li>Standardize antibiotic options</li> <li>Standardize antibiotic stewardship programs</li> </ul>	<ul style="list-style-type: none"> <li>Facilitate education of different signs and symptoms from resident's baseline</li> <li>Home how the residents very well and are reliable source of information</li> </ul>
Skills for UTI diagnosis and management	<ul style="list-style-type: none"> <li>Create UTI checklist on diagnosis and management</li> <li>Facilitate education on UTI symptoms and diagnosis</li> <li>Pharmacist to be present at time of prescribing</li> <li>Standardize common antibiotic prescribing</li> <li>Standardize antibiotic options</li> <li>Standardize antibiotic stewardship programs</li> </ul>	<ul style="list-style-type: none"> <li>Facilitate education of different signs and symptoms from resident's baseline</li> <li>Home how the residents very well and are reliable source of information</li> </ul>

Figure 1: Barriers of Implementation (COM-B model)

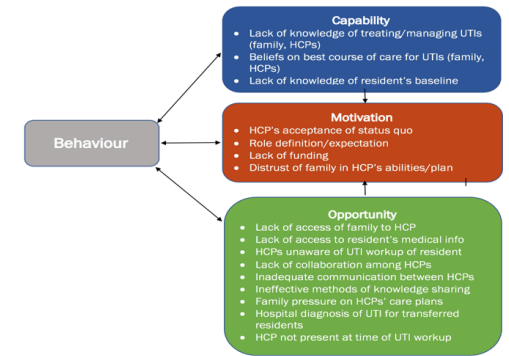
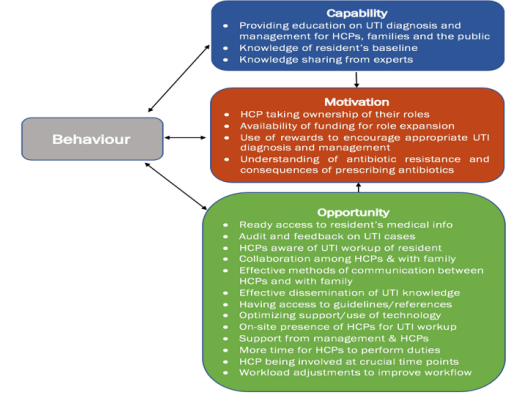


Figure 2: Facilitators of Implementation (COM-B model)



2047. GAIN (Generating Antimicrobial Stewardship Initiatives in Chicago Skilled Nursing Facilities) Collaborative: Cumulative Results of Point Prevalence Surveys Assessing Antibiotic Appropriateness in Four Chicago Skilled Nursing Facilities

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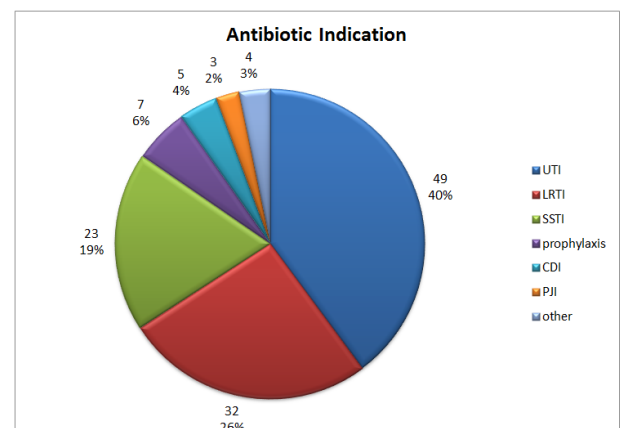
**Background.** Antimicrobial Stewardship Programs (ASPs) in long-term care facilities are a Center for Medicare and Medicaid Services requirement as of 2017. The CDC estimates 40–75% of antibiotic prescribing in skilled nursing facilities (SNFs) is inappropriate. Overuse of antibiotics can cause harm by increasing the risk of adverse drug events (including *C. difficile* infections) and antimicrobial resistance.

**Methods.** The GAIN Collaborative was launched to assist SNFs in improving antibiotic prescribing. A list of antibiotics prescribed was generated from the electronic health records, and a chart review was performed.

**Results.** Antibiotic orders from September 2018 to March 2019 were randomly selected at 4 SNFs, and 120 antibiotic courses were reviewed (23, 40, 25, and 32 at SNFs A-D). Bed size ranged from 72 to 156 (median 88). Inappropriate antibiotic prescribing ranged from 60 to 78% (median 71%) among facilities. Urinary tract infections (UTIs) were the most frequent indication (40%), followed by lower respiratory tract infections (LRTIs), and skin and soft-tissue infections (SSTIs), accounting for 26% and 19% of indications, respectively. Inappropriate prescribing rates by indication were 90% for UTIs, 78% for SSTIs, and 47% for LRTIs. The most common reasons for inappropriate antibiotic prescribing were: insufficient signs and symptoms based on the Loeb minimum criteria for starting antibiotics (43%), inappropriate agent selection (30%), and lengthy treatment durations (29%). The majority of antibiotics prescribed were  $\beta$ -lactams (42%) or fluoroquinolones (29%). The median antibiotic prescription duration for non-catheter-associated UTIs was 5 days, LRTIs was 7 days, catheter-associated UTIs was 10 days, prophylaxis was 10 days, and SSTIs was 13 days.

**Conclusion.** Inappropriate antibiotic use was common in the four Chicago SNFs assessed. Results were presented at each facility's Quality Assurance meeting to deliver provider-focused feedback. Additionally, provider and nursing education has been conducted at the four SNFs aimed at reducing unnecessary treatment of asymptomatic bacteriuria. Any improvements in antibiotic use will be captured through repeat point prevalence surveys post-implementation of a UTI SBAR communication tool and common infection treatment guidelines.

Figure 1: Indication for Antibiotics Prescribed (N=124)\*



\*4 courses of antibiotics were prescribed for >1 indication. UTI = urinary tract infection, LRTI = lower respiratory tract infection, SSTI = skin and soft tissue infection, prophylaxis = of any kind (UTI, dental extract, other procedural, surgical, and), CDI = *C. difficile* infection, PJI = prosthetic joint infection, other = 2 bacteremias, 1 complicated intra-abdominal infection, 1 tooth infection, and 1 osteomyelitis.

Disclosures. All authors: No reported disclosures.