Figure 1. Non-AmpC producing Enterobacterales Identified by BCID2

- E. coli — 139
- K. pneumoniae — 74
- K. oxytoca — 10
- Serratia marcescens — 16
- Proteus spp. — 8
- Enterobacterales, unspecified — 23

Figure 2. Ceftriaxone Susceptibility by Resistance Gene Detected

	Ceftriaxone Susceptible	Ceftriaxone Resistant
None	238	3
KPC	0	1
CTX-M	0	27

the VCUHS ASP BCID2 treatment recommendations for Enterobacterales bacteremia. **Methods:** Patients with positive Enterobacterales BCID2 results from March 12 to June 19, 2023 were retrospectively identified. Organisms identified by BCID2 that were considered high-risk for clinically significant AmpC production due to an inducible AmpC gene (i.e., K. aerogenes, E. cloacae complex) were excluded. **Results:** A total of 270 results were included. The most commonly identified organism was E. coli (n = 139, 51.5%), followed by K. pneumoniae (n = 74, 27.4%). There were 27 (10%) isolates positive for CTX-M and 1 (0.4%) isolate positive for KPC. All CTX-M isolates were ceftriaxone resistant, and the KPC isolate was meropenem resistant. The remaining 242 isolates were negative for all resistance markers detected by BCID2. Of these, only 3 (1.2%) were resistant to ceftriaxone and notably, 8 (3.3%) were resistant to piperacillin/tazobactam. Overall, BCID2 CTX-M detection was 90% sensitive and 100% specific for predicting ceftriaxone resistance in Enterobacterales. **Conclusion:** CTX-M detection by BCID2 is highly sensitive and specific for predicting ceftriaxone resistance in Enterobacterales. CTX-M negative isolates were more often susceptible to ceftriaxone than to piperacillin/tazobactam, which is commonly used as empiric therapy for Gram-negative organisms at our institution. This highlights an excellent opportunity for safe and effective early de-escalation of antibiotics for treatment of Enterobacterales bacteremia.

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Antibiotic Prescribing Practices on Hospital Discharge for Management of Urinary Tract Infections: A Single Center Study

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Background: Appropriate antibiotic use has been described as one of the key strategies in tackling antibiotic resistance. Although the majority of antimicrobial therapy is completed following discharge, there lacks clear guidance in addressing antibiotic stewardship in the outpatient setting. Particularly, broader coverage as well as longer durations of therapy are often encountered following hospitalization. In our study we examine the various antibiotic prescribing practices on hospital discharge for management of urinary tract infections (UTI). **Methods:** We conducted a single-center, retrospective observational chart review of patients discharged from St. Francis Hospital and Medical Center in Hartford between May and July 2022. Medical records were reviewed for patients who were prescribed antibiotic therapy for management of UTI and met inclusion criteria. Variables of interest included type of UTI treated, antibiotic used, duration of antibiotics during and following hospitalization, fluoroquinolone use, as well reported adverse events. Total duration of therapy was defined as days on susceptible antimicrobials with appropriate source control. **Results:** A total of 84 patients met inclusion criteria. 44 received treatment for simple UTI (sUTI) and 40 for complicated UTI (cUTI). Figure 1 shows the various organisms identified on culture. The most common antimicrobials prescribed on discharge were cefpodoxime and ciprofloxacin [figure 2]. Quinolones were prescribed in 11.4% of sUTIs and 39.1% of cUTIs on hospital discharge. Of those, only one patient had no alternative to quinolone use due to drug allergies. The mean duration of therapy for treatment of sUTI was 6.4 days total (SD 2.40) with 3.9 days outpatient (SD 1.78). The mean duration of therapy for treatment of cUTI was 10.9 days total (SD 3.62) with 6.7 days outpatient (SD 2.99). Comparison of mean durations is shown in figure 3. In 49% of all cases (including both sUTI and cUTI) patients received greater than 7 days of antimicrobial therapy.

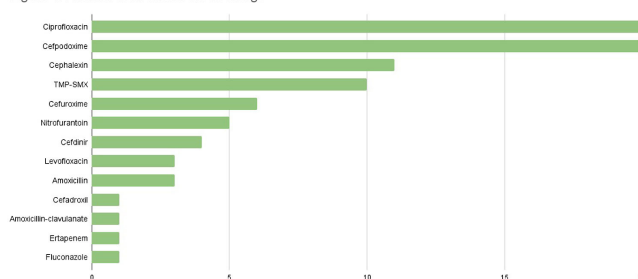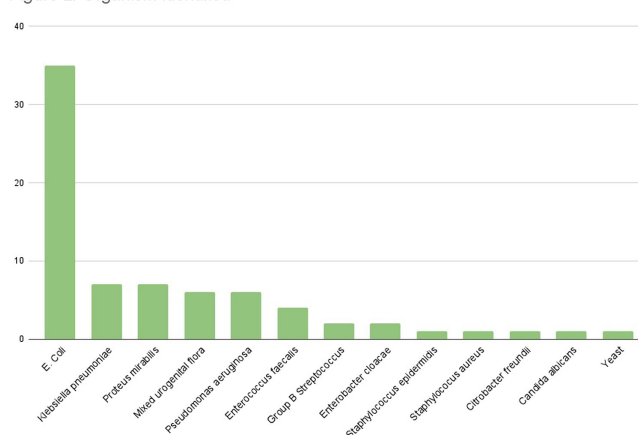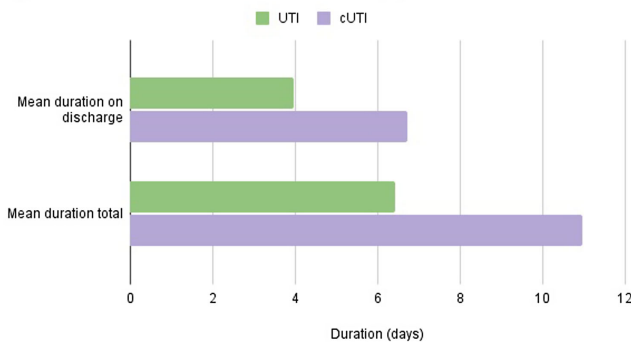Figure 1. Antimicrobial choice on discharge

- Ciprofloxacin
- Cefpodoxime
- Cephalexin
- TMP-SMX
- Cefuroxime
- Nitrofurantoin
- Cefdinir
- Levofloxacin
- Amoxicillin
- Cefadroxil
- Amoxicillin-clavulanate
- Ertapenem
- Fluconazole

Figure 2. Organism identified

E. Coli, Klebsiella pneumoniae, Proteus mirabilis, Mixed urogenital flora, Pseudomonas aeruginosa, Enterococcus faecalis, Group B Streptococcus, Enterobacter cloacae, Staphylococcus epidermidis, Staphylococcus aureus, Citrobacter freundii, Candida albicans, Yeast

Figure 3. Duration of antimicrobial therapy

Table 1: Professions of Survey Respondents

	n=148
Profession	**n (%)**
Nurse	78 (53)
Pharmacist	46 (31)
Physician	12 (8)
Medical Laboratory Scientist	3 (2)
Nurse Practitioner	2 (1)
Other	7 (5)
	n=79
Profession	**n (%)**
Nurse	38 (48)
Pharmacist	25 (32)
Licensed Practical Nurse	8 (10)
Physician	7 (9)
Nurse Practitioner	1 (1)

Conclusion: There is increased evidence favoring shorter courses of antimicrobial therapy for management of both simple and complicated UTIs. A 7-day course has been shown as effective duration of therapy for cUTI with appropriate source control, regardless of presence of bacteremia. Results from our single center-study show both sUTI and cUTI are subject to unnecessarily prolonged durations of therapy on hospital discharge. In addition we noted a significant use of fluoroquinolones in cUTI treatment. We believe stewardship interventions at time of discharge may particularly benefit shorter courses of therapy for cUTI as well as reduced quinolone use.

Figure 1: 63 Nebraska Cities with ≥1 Attendee at the Nebraska Antimicrobial Stewardship Conference

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Antimicrobial Stewardship Practice Changes Following a Statewide Educational Conference in Nebraska

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Background: In 2023, Nebraska held its 4th state antimicrobial stewardship (AS) educational conference, an annual one-day in-person event with continuing education offered for nurses, pharmacists, microbiology lab technicians, and physicians. One challenge of educational events is determining if content has been translated into practice. We sought to assess AS-related practice changes implemented by conference attendees. **Methods:** Conference attendees were sent 2 surveys by email following the conference. Survey 1 questions were integrated into the continuing education credit evaluation immediately following the conference. Survey 2 was sent three months later to all registered attendees. Qualitative responses were grouped by theme and descriptive statistics were used to evaluate **Results:** There were 203 attendees from across the state including a diverse group of learners (Table 1) representing metropolitan and rural areas of Nebraska (Figure 1) from acute care hospitals, critical access hospitals, long-term care settings, and public health. A total of 148 attendees (73%) answered questions in Survey 1 (Table 2), and 79 (39%) attendees responded to Survey 2. On Survey 1, 94% of respondents indicated that they intended to make practice changes, though 60% anticipated barriers including further staff training needs and lack of resources and health system support. On Survey 2, 83% of respondents indicated successful implementation of practice changes at three months after the conference. The

Table 2: Survey 1 Responses

	Strongly Agree	Agree	Neither agree/ disagree	Disagree	Strongly Disagree
I am better able to discuss antimicrobial stewardship principles and implementation strategies.	88/143 61.5%	53/143 37%	1/143 0.7%	0/143 0%	1/143 0.7%
I am better able to identify the roles and responsibilities of the multidisciplinary team.	85/143 59%	55/143 38%	2/143 1.4%	0/143 0%	1/143 0.7%
I am better able to describe how to use antibiotic stewardship tools.	87/143 60.8%	54/143 37.7%	1/143 0.7%	0/143 0%	1/143 0.7%
Materials are based on best practices, current science, evidence, and clinical reasoning.	90/142 63%	50/142 35%	1/142 0.7%	0/142 0%	1/142 0.7%
The format of this education was an effective way to deliver content.	89/142 62.7%	49/142 34.5%	2/142 1.4%	1/142 0.7%	1/142 0.7%
My level of knowledge was adequate before attending the Nebraska Antimicrobial Stewardship Summit.	32/142 22.5%	83/142 58%	23/142 16%	2/142 1.4%	2/142 1.4%
My level of knowledge was enhanced after attending the Nebraska Antimicrobial Stewardship Summit.	76/142 53.5%	62/142 44%	3/142 2%	0/142 0%	1/142 0.7%
My ability to treat patients was adequate before attending the Nebraska Antimicrobial Stewardship Summit.	35/131 26.7%	76/131 58%	16/131 12.2%	3/131 2.3%	1/131 0.8%
My ability to treat patients was enhanced after attending the Nebraska Antimicrobial Stewardship Summit.	72/131 55%	54/131 41.2%	4/131 3%	0/131 0%	1/131 0.8%
I would recommend attending the Nebraska Antimicrobial Stewardship Summit to others.	91/142 64%	48/142 33.8%	2/142 1.4%	0/142 0%	1/142 0.7%

most common practice changes included enhanced communication strategies, improved antibiotic tracking, monitoring, and review, policy and procedure updates, and AS tool implementation. On Survey 1, 26% (35/131) strongly agreed that their ability to treat patients was adequate prior to the conference; this increased to 55% (72/131) post-conference. On Survey 2, 56% (22/39) of respondents reported improvement in patient outcomes because of implemented practice changes following conference attendance. However, some also mentioned a short follow-up survey timeline as a limitation in assessing patient outcome improvements. Reported outcomes included improved receptiveness from providers, patients, and families to antibiotic use recommendations, shorter prescribed durations, and more appropriate initial antibiotic selection. Improved team performance was noted by 73% (27/37) of respondents. Themes included