Methods. We surveyed US females aged ≥ 18 years who participated in web-based surveys (fielded August 28–September 28, 2020 by Dynata, EMI, Lucid/Federated, and Kantar Profiles). Participants had a self-reported uUTI ≤ 60 days prior, and took ≥ 1 oral AB for their uUTI. Those reporting signs of complicated UTI were excluded. HRU was measured via self-reported primary care provider (PCP), specialist, urgent care, emergency room (ER) visits, and hospitalizations. Direct costs were calculated as sum of self-reported and HRU monetized with Medical Expenditure Panel Survey estimates. Indirect costs were calculated via Work Productivity and Impairment metrics monetized with Bureau of Labor Statistics estimates. Participants were stratified by number of oral ABs prescribed (1/2/3+) and therapy appropriateness (1 AB [1st line/2nd line]/multiple [any line] AB) for most recent uUTI. Multivariable regression modeling was used to compare strata; 1:1 propensity score matching assessed uUTI burden vs matched population (derived from the 2020 National Health and Wellness Survey [NHWS]).

Results. In total, 375 participants were eligible for this analysis. PCP visits (68.8%) were the most common HRU. Across participants, there were an average of 1.46 PCP, 0.31 obstetrician/gynecologist, 0.41 urgent care and 0.08 ER visits, and 0.01 hospitalizations for most recent uUTI (Table 1). Total mean uUTI-related direct and indirect costs were $1289 and $515, respectively (Table 1). Adjusted mean total direct costs were significantly higher (Table 2) for participants in the '2 AB' cohort vs the '1 AB' cohort ($2090 vs $776, p < 0.0001), and for the 'multiple AB' vs '1 AB, 1st line' cohorts ($1642 vs $875, p=0.002). Participants in the uUTI cohort reported worse absenteeism (+15.3%), presenteeism (+46.5%), overall work impairment (+52.4%), and impact on daily activities (+50.7%) vs NHWS cohort (p < 0.0001, Table 3).

Table 1. Overall mean uUTI-related healthcare resource use, direct, and indirect cost data

	N=375
uUTI-related HRU, visits in prior 12 months, mean (SD)	
Primary care physician	1.46 (5.34)
OB/GYN	0.31 (2.91)
Urgent care facility	0.41 (2.64)
Emergency room visit	0.08 (0.34)
Hospital (admitted/hospitalized)	0.01 (0.09)
uUTI-related direct costs ($), mean (SD)	
Total OOP costs	90 (168)
PCP visit-related costs	491 (1828)
OB/GYN visit-related costs	105 (966)
Urgent care visit-related costs	390 (2049)
ER visit-related costs	96 (421)
Hospitalization-related costs	118 (1315)
Total direct costs	1289 (3960)
uUTI-related indirect costs ($), mean (SD)	
Cost of presenteeism	348 (230)
Cost of absenteeism	166 (228)
Total indirect cost	515 (311)
WPAI, % impairment (SD)	
Absenteeism	15.9 (21.2)
Presenteeism	50.9 (27.8)
Overall work impairment	56.2 (29.1)
Impact on daily activities	55.0 (26.8)

HRU, healthcare resource use; OB/GYN, obstetrician/gynecologist; OOP, out of pocket; PCP, primary care practitioner; SD, standard deviation; uUTI, uncomplicated urinary tract infection; WPAI, Work Productivity and Activity Impairment survey.

Table 2. Estimated uUTI-related direct costs stratified by (A) number of AB and (B) appropriateness of AB therapy used to treat last uUTI

Cohort		Estimate (SE)	p-value	Adj mean cost (SE), $
(A)	3+ AB, any line (n=52)	0.29 (0.23)	0.197	1041 (215)
	2 AB, any line (n=88)	0.99 (0.19)	**< 0.0001***	2090 (343)
	1 AB, any line (n=235)	*Reference*		776 (76)
(B)	Multiple AB, any line (n=140)	0.63 (0.20)	**0.002***	1642 (217)
	1 AB, 2nd line (n=112)	-0.26 (0.21)	0.204	673 (98)
	1 AB, 1st line (n=123)	*Reference*		875 (125)

*Statistically significant (p < 0.05). Number of AB used for most recent uUTI based on self-report from participants; '1 AB, 1st line' defined as only one 1st line oral AB used (self-reported) to treat last uUTI (trimethoprim-sulfamethoxazole, nitrofurantoin, fosfomycin); '1 AB, 2nd line' defined as only one 2nd line oral AB used (self-reported) to treat last uUTI (ciprofloxacin, ofloxacin, levofloxacin, amoxicillin-clavulanate, cefdinir, cefaclor, cefpodoxime-proxetil, cephalexin); 'Multiple AB, any line' defined as two or more different AB (any line) used (self-reported) for most recent uUTI. '1 AB, any line' is the reference group for part (A) of the table, '1 AB, 1st line' is the reference group for part (B) of the table.

AB, antibiotic(s); Adj, adjusted; SE, standard error; uUTI, uncomplicated urinary tract infection.

Table 3. Mean Work Productivity and Activity Impairment data for uUTI and NHWS cohorts

	uUTI cohort	NHWS cohort	p-value	Incremental burden of uUTI (%)	Interpretation
Outcomes (adjusted)	**Mean score (SD)**	**Mean score (SD)**			
Absenteeism	16.4 (3.4)	1.1 (0.2)	**< 0.0001***	15.3	Approximately 6 hours of missed work in uUTI cohort
Presenteeism	53.8 (6.7)	7.4 (0.9)	**< 0.0001***	46.5	Ability to work while working impacted by ~47% in uUTI cohort
Overall work impairment	60.6 (7.4)	8.2 (1.0)	**< 0.0001***	52.4	Overall ability to work impacted by ~52% in uUTI cohort
Impact on daily activities	59.0 (7.1)	8.3 (1.0)	**< 0.0001***	50.7	Overall daily activities impacted by ~51% in uUTI cohort

*Statistically significant (p < 0.05).

NHWS, National Health and Wellness Survey; SD, standard deviation; uUTI, uncomplicated urinary tract infection.

Conclusion. Inadequate treatment response, evident by multiple AB use, was associated with an increase in uUTI-related costs, including productivity loss.

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1228. Outcomes Associated with Empiric Cefepime or Meropenem for Bloodstream Infections Caused by Ceftriaxone-Resistant, Cefepime-Susceptible *Escherichia coli* and *Klebsiella pneumoniae*

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Background. Cefepime is a 4th generation cephalosporin frequently used for empiric sepsis therapy. Dose- and MIC-dependent efficacy of cefepime is supported by the Clinical & Laboratory Standards Institute, however its use in infections due to extended-spectrum beta-lactamase-producing *Enterobacterales* is controversial. This study aims to compare outcomes in patients given empiric meropenem or cefepime for bloodstream infections (BSI) caused by ceftriaxone-resistant *E. coli* and *K. pneumoniae*.

Methods. This single-center retrospective cohort included adults hospitalized from 2010 - 2020 and received empiric cefepime or meropenem for BSI caused by ceftriaxone-resistant *E. coli* or *K. pneumoniae*. In the cefepime group, only organisms with MIC ≤ 2 mg/L were included. Patients who received the empiric agent for < 48 hours, or received an additional active agent within 48 hours were excluded. The primary outcome was 30-day mortality; secondary outcomes were recurrent infection, readmission, and time to clinical stability. Chi-squared or Fisher's exact was used for categorical variables and Mann-Whitney-U for continuous variables. Inverse probability treatment weighing was used to determine the impact of empirical therapy on clinical stability at 48 hours.

Results. Fifty-four patients were included: 36 received empiric meropenem, 18 received cefepime. There were no significant differences in baseline severity of illness or comorbid conditions. Urinary source was less common in the meropenem group compared to cefepime (52.8 vs 83.8%, p=0.028) (Table 1). There was no difference in 30-day mortality between meropenem and cefepime (2.8 vs 11.1%, p = 0.255). More patients achieved clinical stability at 48 hours on empiric meropenem compared to cefepime (75 vs 44.4%, p = 0.027), and time to clinical stability was significantly shorter (median 21.3 vs 38.5 hours, p = 0.016). Most patients in the meropenem and cefepime groups completed definitive treatment with a carbapenem (88.9 vs 72.2%, p=0.142).

Table 1: Results

Outcomes	Total (n=54)	Meropenem (n=36)	Cefepime (n=18)	p
30-day mortality, n (%)	3 (5.6%)	1 (2.8%)	2 (11.1%)	0.255
14-day mortality, n (%)	2 (3.7%)	1 (2.8%)	1 (5.6%)	1.000
Recurrent BSI in 90 days, n (%)	5 (9.8%)	3 (8.6%)	2 (12.5%)	0.643
Recurrent infection with same organism in 90 days, n (%)	16 (31.4%)	8 (22.9%)	8 (50%)	0.053
90-day Readmission, n (%)	23 (45.1%)	14 (40%)	9 (56.3%)	0.279
90-day Readmission for infection from same organism, n (%)	13 (56.5%)	7 (50%)	6 (66.7%)	0.669
Clinical stability at 48 hours, n (%)	35 (64.8%)	27 (75%)	8 (44.4%)	0.027
Time to clinical stability, hours (IQR)	30.6 [4.1 - 51.4]	21.3 [3.2-48.6]	38.5 [18.9-73.2]	0.016
Time to resolution of signs/symptoms of infection, hours (IQR)	34.3 [21.3 - 59.6]	32.8 [18.5-57.5]	48.6 [33.5-87.4]	0.264
Clostridioides difficile infection, n (%)	2 (3.7%)	0 (0%)	2 (11.1%)	0.107

Summary of primary and secondary outcomes

Conclusion. There was no difference in mortality between patients receiving empiric cefepime for BSI due to ceftriaxone-resistant *Enterobacterales,* with cefepime MIC ≤ 2 mg/L, compared to meropenem; however, time to clinical stability was significantly delayed.

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1229. Antimicrobial Activity of Plazomicin against Multidrug-resistant *Enterobacterales*: Results from 3 Years of Surveillance in Hospitals in the United States (2018–2020)

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