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 control for strata; 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 direct total 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, 1 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

| HRU: healthcare resource use; OB/GYN, obstetrician/gynecologist; OOP, out of pocket; PCP, primary care physician; SD, standard deviation; uUTI, uncomplicated urinary tract infection; WPAL, 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 |

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

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

Disclosures. Jeffrey Thompson, PhD, Kantar Health (Employee, Employee of Kantar Health, which received funding from GlaxoSmithKline plc. to conduct this study) Alen Marijam, MSc, GlaxoSmithKline plc. (Employee, Shareholder) Fanny S. Mitran-Gold, MPH GlaxoSmithKline plc. (Employee, Shareholder) Jonathan Wright, BSc, Kantar Health (Employee, Employee of Kantar Health, which received funding from GlaxoSmithKline plc. to conduct this study) Ashish V. Joshi, PhD, GlaxoSmithKline plc. (Employee, Shareholder)

1228. Outcomes Associated with Empiric Cefepime or Meropenem for Bloodstream Infections Caused by Ceftriaxone-Resistant, Cefepime-Resistant Escherichia coli and Klebsiella pneumoniae Brian E. Frescas, PharmD; Christopher McCoy, PharmD, BCDIP; James Kirby, MD, D(ABMM); Robert Bowden, BS; Nicholas J. Mercuro, PharmD; Beth Israel Deaconess Medical Center, Boston, Massachusetts

Session: P-72. Resistance Mechanisms

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 Enterobacteriaceae 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 to 2020 and received empiric cefepime or meropenem for BSI caused by ceftriaxone-resistant E. coli or K. pneumoniae. 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 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 cefepime 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

| Summary of primary and secondary outcomes |

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

Disclosures. James Kirby, MD, D(ABMM), First Light Biosciences (Board Member)/TECAN, Inc. (Research Grant or Support)

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

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Results. PLZ inhibited 93.0% of the MDR isolates (MIC_{50} ≤0.5 mg/L) and showed a higher bactericidal rate than AMK and MIC (MIC_{50} ≤0.1 mg/L). AMK S rates were 86.4% and 69.3% when EUCAST (≤8 mg/L) and USCAST (≤4 mg/L) breakpoints were applied, respectively. Among agents from other classes, S rates were 85.5% for meropenem, 88.4% for tigecycline, 94.3% for piperacillin-tazobactam, and 17.8% for cefepime; only the carbapenems and tigecycline were active against >50% of MDR isolates. PLZ was active against 99.0% of ESBL producers, while AMK S rates were 96.2%/87.0% as per the US FDA/EUCAST against these organisms. PLZ and AMK showed similar S rates when tested against GEN-NS isolates. GEN and TOB exhibited limited activity against these isolates including AME-, ESBL-, and/or CPE-producers that cause infections in US hospitals.

Discussion. Cecilia G. Carvalhaes, MD, PhD, AbbVie (formerly Allergan) (Research Grant or Support)Cidara Therapeutics, Inc. (Research Grant or Support)Cipla USA Inc. (Research Grant or Support)Melinta Therapeutics, LLC (Research Grant or Support)Pfizer, Inc. (Research Grant or Support)Jaideep Gogtay, n/a, Cipla Therapeutics, Inc. (Research Grant or Support)GlaxoSmithKline, LLC (Research Grant or Support)Cidara Therapeutics, Inc. (Research Grant or Support)Cipla Therapeutics (Employee)Cipla USA Inc. (Employee)Cheung Yee, MSc, PhD, Pfizer, Inc. (Research Grant or Support)Cipla Therapeutics (Employee)Sanatira Dao, n/a, Cipla Therapeutics (Employee)Mariana Castanheira, PhD, Creighton University/Dept of Medical Microbiology and Immunology, B.S.

Production on β-Lactam MICs in MDR Enterobacterales isolates

| Resistant subset | MIC ≤0.5 mg/L | % susceptible as per USFDA |
|------------------|--------------|---------------------------|
| Plazomicin       | 0.51 (93.0)  | ≥16 (10-18)               |
| Amikacin         | 0.51 (93.0)  | ≥16 (10-18)               |
| Gentamicin       | 0.51 (93.0)  | ≥16 (10-18)               |
| Tobramycin       | 0.51 (93.0)  | ≥16 (10-18)               |
| TOB-NS (369)     | 0.51 (92.4)  | ≥16 (10-18)               |
| Aminopenicillin  | 0.51 (97.0)  | ≥16 (10-18)               |
| Cefepime         | 0.51 (99.0)  | ≥16 (10-18)               |
| CPE producers    | 0.51 (80.8)  | ≥16 (10-18)               |
| ESBL producers   | 0.51 (99.0)  | ≥16 (10-18)               |

Conclusion. Despite co-resistance to aminoglycosides and other classes of antibiotics observed with MDR Enterobacteriales isolates, PLZ remained highly active against these isolates including AME-, ESBL-, and/or CPE-producers that cause infections in US hospitals.