EC from UTIs in the United States and 11 countries in Europe (EU) in 2017 and the impact of co-resistance to oral agents used to treat UTIs.

Methods. 2422 unique EC from UTIs in the United States and EU in the SENTRY Surveillance program were evaluated for susceptibility to various agents. All isolates were consecutively collected and centrally tested by CLSI methods and interpretive criteria. Isolates that met ESBL MIC screening criteria were characterized for the presence of β-lactamase genes.

Results. Among the 2422 isolates of EC from UTI's in the United States and EU the resistance (R) rates for cefuroxime (CEF), levofloxacin (LEV) and TMP-SMX were 17.9%, 25.6% and 33.2%, respectively. The overall prevalence of ESBL phenotypes was 18.2% (18.7% in the United States and 21.0% in EU). Among the 411 ESBL phenotypes, R to CEF, LEV and TMP-SMX were: 94.3%, 70.6%, and 61.6%, respectively. In contrast, <0.1% of all EC or 0.2% of ESBL EC were meropenem (MER)-R. Only two carbapenemase-producing organisms were identified, an NDM-5- and a KPC-2-producing EC from Turkey and Greece, respectively. The CTX-M-15 was the most prevalent ESBL and identified among 167 isolates; with co-resistance to CEF, LEV and TMP-SMX noted in 100%, 82.6% and 70.7%, respectively. All CTX-M-15 isolates were susceptible to MER.

Conclusion. Oral agents such as CEF, LEV, and TMP-SMX exhibit R rates ≥17.9%. Co-resistance to CEF, LEV, and TMP-SMX were considerably higher among ESBL phenotypes (>61.1%) and confirmed $bla_{CTX-M-15}$ genotypes (70.7%). In contrast, the carbapenems remained active against ESBL phenotypes and genotypes, such as $bla_{CTX-M-15}$. New oral agents with the spectrum and potency of the carbapenems would address an unmet need for new options to treat multi-drug-resistant EC UTIs.

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1466. Alkaline Urine: A Cause for Urinary Tract Infection Recurrence

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Background. Urinary tract infections (UTIs) are one of the most common indications for antibiotics in both the inpatient and outpatient setting. The purpose of this study was to examine the impact of urinary pH on recurrence of UTIs. A recent review article stated imaging should be considered for patients with a urinary pH of 7 or higher. This study examines the impact of pH on outcomes of patients with UTI to determine whether pH plays a role in recurrent infection and representations to the healthcare facility.

Methods. This was a retrospective chart review via the computerized patient record system. Patients over the age of 18 years who presented to the healthcare facility between January 1, 2005 to January 1, 2019 for treatment of UTIs were included in this study. Alkaline urine was defined as a urinary pH greater than or equal to 7, while acidic urine was defined as a urinary pH less than 7. Urease splitting organisms included *Proteus* spp., *Providencia* spp., and *Morganella* spp. Outcomes included recurrence and re-presentation to the healthcare facility within 30 days.

Results. A total of 793 patients were included in this study, of which 21.3% had alkaline urine. Patients with alkaline urine were more likely to have recurrence of UTI (8.3% vs. 4.3%). Patients with a catheter were more likely to have alkaline urine (30% vs 18%; $P = 0.0005$). As expected, alkaline urine was associated with a higher frequency of urease splitting organisms (19% in alkaline urine vs. 3% in acidic urine). Renal calculi were found in 3.6% of patients with alkaline urine; however, only 34.3% of patients with alkaline urine had imaging completed. The use of drugs which can alkalinize the urine did not differ significantly between groups.

Conclusion. Patients with an alkaline urinary pH were more likely to experience recurrence and readmission within 30 days. Imaging was performed in a minority of patients which may represent a potential target for stewardship programs. Alkaline urine may be a marker for urease splitting organisms and calculi formation. More widespread imaging may be able to detect stones, allowing for potential urologic intervention, preventing subsequent antibiotic courses and repeated healthcare presentations.

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

1467. Antimicrobial Susceptibility and Molecular Characterization of Extended-Spectrum β-Lactamase of *Escherichia coli* and *Klebsiella pneumoniae* of Urine Samples Isolated from Community Patients in South Brazil

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Background. Enterobacteriaceae is the main pathogens of UTI. It is important to be aware the local epidemiological data for an appropriate initial treatment. Resistance to antimicrobial agents has increased, especially to first-choice antibiotics in the treatment of cystitis. Our objective is to asses the antimicrobial susceptibility

profile from uropathogens isolated in community and evaluated the dissemination of extended-spectrum ß lactamase (ESBL), in *E. coli* and *K. pneumoniae* in south of Brazil.

Methods. From June 2016 to June 2017, all urine samples collected in the Basic Health Units and Emergency Departments were sent to a Central Laboratory. Identification and susceptibility tests were performed on the VITEK® 2 (bioMérieux, France) system. Clinical Laboratory Standards Institute (CLSI) breakpoints were used for the interpretation of susceptibility. Positive cultures were defined as those demonstrating ≥10⁵ CFU / mL (colony-forming units). The presence of ESBL was also subjected to the Chrom ID BLEE* agar plate test (bioMérieux- Marcyl'Etoile, France). PCR technique uses specific primers for genes bla_{TEM} and bla_{SHV}. Detection of the bla_{CTX-M} genes was performed by multiplex PCR.

Results. A total of 56,555 microbiologic tests were performed, 8189 were positive. Women were responsible for 89.4%, and 10% were pregnant. Table 1 shows uropathogens isolated. Graphic 1 shows antimicrobial susceptibility. Extended-spectrum ß lactamase production was present in 6.7% (*n* = 489). People older than 60 years had ESBL more frequent (*P* <0.05) as well as being pregnant is not related to ESBL (*P* <0.05). Table 2 shows the distribution of the *bla* genotypes.

Table 3: Distribution of blaCTX-M. Among *bla*CTX-M1 genotype, *bla*CTX-M15 was the most frequent.

Conclusion. In this study, the most frequent uropathogen isolated was *E. coli* followed by *K. pneumoniae.* Cotrimoxazol had high rates of resistance and nitrofurantoin the lowest. Quinolone resistance is more than 10%. Sensitivity to aminoglycosides and carbapenems remains high.We found relevant frequency of ESBL, CTX-M-1-group most commonly found. Among CTX-M-1, *bla*CTX-M15 was the most isolated.

Table 1: Uropathogens isolated

Gram negative		
Uropathogen	**n**	**%**
Escherichia coli	5830	80,2
Klebsiella pneumoniae	696	9,6
Proteus mirabilis	335	4,6
Citrobacter koseri	106	1,5
Enterobacter sp	148	2,0
Morganella morganii	49	0,7
Klebisiella oxytoca	33	0,5
Citrobacter freundii	23	0,3
Serratia marcescens	20	0,3
Others	27	1.0
TOTAL	**7267**	**87,8**
Gram positive		
Uropathogen	**n**	**%**
Staphylococcus saprophyticus	375	4.4
Staphylococcus aureus	82	1.0
Streptococcus agalactiae	203	2.4
Enterococcus faecalis	178	2.1
Others	168	2.0
TOTAL	**1005**	**12,1**
Non-fermenter		
Uropathogen	**n**	**%**
Pseudomonas aeruginosa	75	0.8
Acinetobacter baumannii	4	0.0
TOTAL	**78**	**0,8**

GRAPHIC 1- Antimicrobial susceptibility

ANTIMICROBIAL SUSCEPTIBILITY (%)