

Methods. Retrospective review of antibiotics ordered between May 2, 2017 and December 1, 2017 among hospitalized patients aged 18–89 years. The primary objective was the accuracy of provider-selected indications (PSI) compared with EMR documented-clinical indication (DCI). Secondary objectives included accuracy comparison between check-box and free-text PSI format, and adherence to institutional antibiotic use guidelines. Differences between proportions of antibiotic orders with certain variables were assessed with Pearson's chi-square and Fisher's exact as appropriate.

Results. A total of 304 patients were evaluated with a median age of 56 years, 49% male, and 31% identified as immunocompromised. Check-box was most utilized in 81%, with 93% having a single indication selected. Most orders were classified as empiric (63%), followed by prophylaxis (23%) and definitive (15%). Frequent indications chosen were pneumonia (17%), bacteremia (13%), skin and soft tissue (10%), urinary tract infection (9%), and intra-abdominal infections (5%). Accuracy by PSI/DCI match was 78%, which was not different by a method of indication entry. Only indication type ($P = 0.023$) and care team specialty ($P = 0.009$) were shown to significantly impact accuracy. Nonadherence to institutional guidelines was 19%.

Conclusion. Antibiotic indications on order entry are an effective strategy to improve documentation and meet compliance around new CMS standards. Ordering by surgical services and prophylactic indications had lower PSI/DCI match, mostly resulting from absent EMR indication documentation.

Disclosures. All authors: No reported disclosures.

1022. Is it Time to Re-Evaluate Oral B-Lactam Antibiotics for Step-Down Therapy of Uncomplicated Gram-Negative Bacteremia?

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Background. Bloodstream infections (BSI) due to Enterobacteriaceae often require empiric intravenous (IV) antibiotics. Oral antibiotics for the definitive treatment of these infections have been reserved to antibiotics with "high" oral bioavailability, mainly fluoroquinolones (FQ). Safety concerns and increasing resistance associated with FQ has modified clinical practice to identify alternative oral therapies. Select β -lactam (BL) antibiotics are well-tolerated, have moderately high bioavailability, and possess in-vitro activity against *Escherichia coli* (*E. coli*), *Klebsiella pneumoniae* (*K. pneumoniae*), and *Proteus mirabilis* (*P. mirabilis*). Limited evidence exists for oral BL step-down therapy for definitive treatment of BSI due to these organisms.

Methods. This retrospective cohort study compares clinical outcomes of patients treated with oral BL antibiotics to those who received oral FQ or trimethoprim/sulfamethoxazole (TS) for the treatment of BSI due to *E. coli*, *K. pneumoniae*, and *P. mirabilis*. The primary outcome is a composite of 30-day all-cause mortality, 30-day readmission due to recurrence, and/or change in oral antibiotic therapy. Secondary endpoints include 90-day development of *Clostridium difficile* infection, 90-day all-cause readmission, hospital length of stay (LOS), and 90-day recovery of a multi-drug-resistant organism.

Results. Nine hundred eighty-one patients were screened and 397 adult patients were included. Excluded patients: IV only ($n = 291$), polymicrobial blood culture ($n = 112$), immunocompromised ($n = 61$), other ($n = 120$). Two-hundred patients received oral step-down therapy with a BL, and 197 with either an FQ or TS. *E. coli* was the causative organism for most patients in both groups, and urinary tract was the most common source of BSI. The median total duration of therapy was 14 days in both groups. There was no significant difference in the primary composite endpoint (7% vs. 5.6%, $P = 0.561$). There was no mortality or differences in secondary outcomes, except LOS (6 vs. 5 days, $P = 0.043$).

Conclusion. Utilization of oral BL for the step-down therapy of uncomplicated BSI due to *E. coli*, *K. pneumoniae*, and *P. mirabilis* did not result in worse outcomes compared with those receiving oral FQ or TS.

Disclosures. All authors: No reported disclosures.

1023. Isavuconazonium Use at an Academic Transplant Center

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Background. Isavuconazonium is an appealing anti-fungal due to its broad spectrum of activity, predictable pharmacokinetics, oral bioavailability, and lack of QTc prolongation, but real-world experience with it is limited. At our academic medical center, isavuconazonium is restricted to the infectious diseases (ID) service for treatment of invasive fungal infections, including endemic mycoses due to high prevalence, and is recommended for patients intolerant of first-line agents. The purpose of this study was to describe isavuconazonium use at our institution and assess adherence to its formulary guidelines.

Methods. Inpatients with an order for isavuconazonium between June 2016 and November 2018 were analyzed via retrospective chart review. Prescribing team, indication, and rationale for use were evaluated.

Results. There were 97 inpatient encounters with an isavuconazonium order among 57 patients. Of those, 30 were solid-organ transplants and 9 had bone marrow transplants. Indications for isavuconazonium were: histoplasmosis 25%, high-risk fungal prophylaxis 21%, invasive aspergillosis 9%, candidiasis 2%, and other 44% (Table 1). Preceding anti-fungal therapy included: voriconazole 49%, posaconazole 12%, fluconazole 9%, micafungin 7%, amphotericin B 5%, itraconazole 4%, and none 35%. The rationale for the use of isavuconazonium is described in Table 2. ID consultation occurred in 79% of patients. Those without a consult had an indication of prophylaxis or were continuation of therapy started outpatient or at an outside hospital (OSH).

Conclusion. Histoplasmosis was the most common infection treated with isavuconazonium, despite limited data for that indication. Further investigation of the clinical course for these patients is warranted. Reasons for use most commonly centered on concern for QTc prolongation, clinical failure, and drug interactions. Over one-third of patients received no anti-fungal therapy prior to initiation. Adherence to required ID consultation was high. Patients on isavuconazonium for prophylaxis or as continuation therapy without a consult may still benefit from ID review to assess the appropriateness of therapy.

Table 1: Other Indications for Isavuconazonium

	Patients n=25
Pneumonia of Unknown Cause, n	18
Sepsis, n	3
Fungal Sinusitis, Unknown Organism, n	1
Penicillium, n	1
Neutropenia, n	1
Possible Fungal Endocarditis, n	1

Table 2: Rationale for Use of Isavuconazonium

Rationale for Use	Patients N=57
Intolerance, n (%)	29 (51)
QTc Prolongation, n	11
On Levofloxacin (QTc Prolongation Concern), n	4
Underlying Arrhythmia (QTc Prolongation Concern), n	3
Elevated LFTs, n	3
Renal Dysfunction, n	3
Hallucinations, n	2
Vision Changes and GI Intolerance, n	1
Rash, n	1
Hyperbilirubinemia, n	1
Failure of First Line Therapy, n (%)	13 (23)
Progression of Disease, n	8
Sub-therapeutic Levels, n	5
Other, n (%)	16 (28)
Drug Interaction, n	5
Empiric Broad Spectrum Desired, n	4
Unknown, Inadequate Description, n	3
Unknown, Continuation of Therapy Started at OSH, n	2
Insurance Coverage, n	2

Disclosures. All authors: No reported disclosures.

1024. Evaluation of Atovaquone Prescribing for *Pneumocystis jirovecii* Pneumonia (PJP) Prophylaxis

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Background. Trimethoprim-sulfamethoxazole (TMP-SMX) use for PJP prophylaxis has been associated with a variety of adverse reactions including myelosuppression, hypersensitivity reactions, acute kidney injury, and hyperkalemia. Atovaquone is used as an alternative drug, but it has several disadvantages, such as breakthrough PJP risk, dysgeusia, and higher cost compared with TMP-SMX. Indications for atovaquone prophylaxis at our institutions include severe cytopenias, hypersensitivity, renal impairment, or hyperkalemia. We evaluated atovaquone use and compliance with institutional PJP prophylaxis guidelines.

Methods. This was a retrospective study of inpatient atovaquone prescribing for PJP prophylaxis at Brigham and Women's Hospital and Dana-Farber Cancer Institute from 7/1/18 to 9/30/18. We included adult patients who received ≥ 1 dose of atovaquone