Effectiveness, and Safety. Michael E. DeBakey Veterans Affairs Medical Center, Houston, Texas, 1Department of Medicine, Section of Health Services Research, Baylor College of Medicine, Houston, Texas, 2School of Public Health, University of Michigan, Ann Arbor, Michigan and 3Department of General Internal Medicine, The University of Texas M.D. Anderson Cancer Center, Houston, Texas

Session: 214. Optimizing HIV Treatment
Saturday, October 6, 2018: 10:30 AM

Background. Unmet needs among hospitalized patients with HIV may prevent engagement in HIV care leading to worse clinical outcomes. Our aim is to examine the role of unmet subsistence needs (e.g., housing, transportation, food) and medical needs (e.g., mental health, substance abuse treatment) as barriers for retention in HIV care and viral load (VL) suppression.

Methods. We utilized data from the Mentor Approach for Promoting Patients’ Self-Care intervention study, the enrolled hospitalized HIV patients at a large publicly funded hospital between 2010 and 2013, who were out-of-care. We examined the effect of unmet needs on retention in HIV care (attended HIV appointments within 0-30 days and >30 and >90 days) and viral load suppression, 6 months after discharge.

Results. A total of 417 participants were enrolled, 78% reported having ≥1 unmet need at baseline, most commonly dental care (55%), financial (43%), or housing needs (34%). Participants with unmet needs at baseline, compared with those with no needs, were more likely to be African American, have an existing HIV diagnosis, and be uninsured. Among participants who completed a baseline and 3-month survey (n = 320), 45% reported a need for dental care, 42% reported financial needs, and 32% reported housing needs that were unmet at either time point (1). Having a dental care need at baseline that was met was significantly associated with higher odds of VL improvements at 6-month follow-up (OR: 2.39; 95% CI: 1.04–5.05, P = 0.03) and higher odds for retention in care (OR: 2.06; 95% CI: 1.05–4.07, P = 0.04). An unmet need for transportation was associated with lower odds of retention in care (OR: 0.5; 95% CI: 0.34–0.94, P = 0.03), even after adjusting for other factors. Compared with participants with no need, those who reported ≥3 unmet subsistence needs were less likely to demonstrate viral load improvement (OR: 0.51; 95% CI: 0.28–0.92, P = 0.03) and to be retained in care (OR: 0.52; 95% CI: 0.28–0.95, P = 0.03).

Conclusion. An important and novel finding in our study is that the number of unmet subsistence needs had a significant effect on retention in care and VL suppression. Broader access to programs that can assist in meeting subsistence needs among hospitalized patients could have significant individual and public health benefits.

Disclosures. All authors: No reported disclosures.

177. Gut Resistome Changes in Response to Prophylactic Antibiotic Administration During Chemotherapy in Children With Acute Lymphoblastic Leukemia
Ellie Schild, MD PhD1; Hana Hakim, MD, MS2; Jianguo Yao, PhD3; Jason Rosch, PhD4; Li Tang, PhD5; Yilan Sun, MS2; Ronald Dallas, PhD6 and Joshua Wolf, MBBS FRACP7; 1Infectious Diseases, St. Jude Children’s Research Hospital, Memphis, Tennessee; 2Bioinformatics, St. Jude Children’s Research Hospital, Memphis, Tennessee; and 3St. Jude Children’s Research Hospital, Memphis, Tennessee

Session: 215. Translating Microbiome Science into Practice
Saturday, October 6, 2018: 10:30 AM

Background. Antibiotic resistance harbored in gut microbiota contributes to the emergence of multi-drug-resistant organisms (MDRO). Pediatric leukemia patients typically receive extensive antibiotics and are at higher risk for infection due to MDRO. Methods. A prospective cohort of children (n = 242) with acute lymphoblastic leukemia self-collected stool samples at diagnosis and after induction chemotherapy. A third of patients in our cohort received empirically-driven antibiotic prophylaxis. Leuflavoloxacin (LV) given once neuropenia develops. With neutropenic fever patients on prophylaxis stopped LV and all patients received cefepime. Using metagenomic sequencing, we identified bacterial community composition and after alignment to the Comprehensive Antibiotic Resistance Database were able to determine the presence of bacterial resistance genes in 168 stool samples from 49 patients.

Results. Expected changes in the community composition were discovered with LV prophylaxis, including the loss of many Enterobacteriaceae and Enterococcaceae species, offset by increases in Bacilliodes species. Unexpectedly, LV prophylaxis reduced the acquisition of Vana cluster of vancomycin resistance genes and did not increase acquisition of ß-lactamase or fluoroquinolone (FQ) resistance gene families.

Conclusion. LV prophylaxis during leukemia treatment impacts predictable changes in gut bacterial communities but counter intuitively decreases antibiotic resistance in the gut microbiome reservoir. The reduction in Vana cluster of genes is likely due to depletion of Enterococcaceae species via direct killing or loss of synergistic partners. The lack of increase in target (FQ) or off-target resistance suggests that prophylaxis altered community selective pressures or prophylaxis drug concentrations were sufficient to limit the outgrowth of resistant mutants.

Disclosures. J. Wolf, Karius Inc.: Investigator, Research support.