Conclusion. Lefamulin demonstrated potent *in vitro* antibacterial activity against *S. aureus* from children with CF, regardless of resistance phenotype. Lefamulin may represent a valuable treatment option for CF patients with *S. aureus* LRT infections.

Antimicrobial	*S. aureus* (224)		MRSA (51)	
Agent	$MIC_{50/90}$ (mg/L)	% Susc.	$MIC_{50/90}$ (mg/L)	% Susc.
Lefamulin	0.06/0.12	99.6	0.06/0.12	100.0
Azithromycin	8/>8	48.7	8/>8	23.5
Ceftaroline	0.25/1	100.0	1/1	100.0
Clindamycin	0.06/0.06	95.1	0.06/>2	82.4
Doxycycline	≤0.06/0.5	99.1	≤0.06/0.5	98.0
Levofloxacin	0.25/2	88.4	0.25/2	64.7
Linezolid	1/2	100.0	1/2	100.0
Oxacillin	0.5/>2	77.2	>2/>2	0.0
TMP-SMX	≤0.5/≤0.5	99.6	≤0.5/≤0.5	98.0
Vancomycin	0.5/1	100.0	1/1	100.0

Disclosures. **Helio S. Sader, MD, PhD, FIDSA**, **AbbVie (formerly Allergan)** (Research Grant or Support)**Basilea Pharmaceutica International, Ltd.** (Research Grant or Support)**Cipla Therapeutics** (Research Grant or Support)**Cipla USA Inc.** (Research Grant or Support)**Department of Health and Human Services** (Research Grant or Support, Contract no. HHSO100201600002C)**Melinta Therapeutics, LLC** (Research Grant or Support)**Nabriva Therapeutics** (Research Grant or Support)**Pfizer, Inc.** (Research Grant or Support)**Shionogi** (Research Grant or Support)**Spero Therapeutics** (Research Grant or Support) **Susanne Paukner, PhD**, **Nabriva Therapeutics GmbH** (Employee) **Steven P. Gelone, PharmD**, **Nabriva Therapeutics US, Inc.** (Employee) **S J Ryan Arends, PhD**, **AbbVie (formerly Allergan)** (Research Grant or Support)**GlaxoSmithKline, LLC** (Research Grant or Support)**Melinta Therapeutics, LLC** (Research Grant or Support)**Nabriva Therapeutics** (Research Grant or Support)**Spero Therapeutics** (Research Grant or Support) **Rodrigo E. Mendes, PhD**, **AbbVie** (Research Grant or Support)**AbbVie (formerly Allergan)** (Research Grant or Support)**Cipla Therapeutics** (Research Grant or Support)**Cipla USA Inc.** (Research Grant or Support)**ContraFect Corporation** (Research Grant or Support)**GlaxoSmithKline, LLC** (Research Grant or Support)**Melinta Therapeutics, Inc.** (Research Grant or Support)**Melinta Therapeutics, LLC** (Research Grant or Support)**Nabriva Therapeutics** (Research Grant or Support)**Pfizer, Inc.** (Research Grant or Support)**Shionogi** (Research Grant or Support)**Spero Therapeutics** (Research Grant or Support)

1321. Acquisition and Transmission of *Streptococcus pneumoniae* in Individuals Over the Age of 60 Years Residing in New Haven, CT, USA

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Session: P-73. Respiratory Infections - Bacterial

Background. Despite the widespread use of pneumococcal conjugate vaccines, particularly in children, an important burden of pneumococcal disease remains in older adults. The acquisition and transmission rates of pneumococcus between older adults have not been well characterized.

Methods. Between October 2020-June 2021, couples living in the Greater New Haven Area were enrolled if both individuals were over the age of 60 years and did not have any individuals under the age of 60 years living in the household. Saliva samples and questionnaires regarding social patterns and medical history were obtained every 2 weeks for a period of 10 weeks. Following culture-enrichment, extracted DNA was tested using qPCR for pneumococcus-specific sequences *piaB* and *lytA*. Individuals were considered positive for pneumococcal carriage when qPCR Ct-values for *piaB* +/- *lytA* were less than 40.

Results. To date, we have collected 495 saliva samples from 95 individuals (48 households). Of 495 saliva samples, 31 (5.9%) have tested positive for pneumococcus by either *piaB* only (n=9) or both *lytA* and *piaB* (n=22). Of 95 individuals, 16 (16.8%) (representing 13, or 27.1% households) have tested positive at least once. Six of the 16 (37.5%) carriers tested positive at multiple timepoints, though none were colonized at all 6 time points over the course of the 10 weeks of study enrolment. For 3 of the 48 (6.3%) households, both members of the couple were identified as carriers, though not necessarily at the same sampling moment.

Conclusion. The preliminary findings of this longitudinal transmission model demonstrate evidence of pneumococcal acquisition among older adults measured by molecular tools. These transmission patterns and high rates of pneumococcal carriage in adults were observed during a period when the COVID-19 pandemic led to numerous preventative public health measures that may have reduced pneumococcal transmission (e.g., social distancing, mask wearing, bans on mass gatherings, restaurant closures, travel restrictions).

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1322. Complications and Hospital Resource Utilization among Patients with Bacterial Nosocomial Pneumonia in the US, 2012-2019

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Session: P-73. Respiratory Infections - Bacterial

Background. Nosocomial pneumonia (NP) remains a costly complication of hospitalization. Consisting of hospital-acquired ventilated (vHABP) and non-ventilated (nvHABP), and ventilator-associated (VABP) bacterial pneumonia, these conditions themselves are fraught with further complications. We examined hospital resource utilization (HRU) and the rates of important complications in these three groups in a large US database.

Methods. We conducted a multicenter retrospective cohort study within Premier Research database, a source containing administrative, pharmacy, and microbiology data. The three types of NP were identified based on a slightly modified, previously published ICD-9/10-CM algorithm,[1] and compared with respect to hospital costs, length of stay (LOS) and development of *C. difficile* infection (CDI), extubation failure (EF), and reintubation (RT). CDI was identified by its treatment with metronidazole, vancomycin, or fidaxomicin. Marginal effects were derived from multivariable regression analyses.

Results. Among 17,819 patients who met the enrollment criteria, 26.5% had nvHABP, 25.6% vHAPB, and 47.9% VABP. Patients with nvHABP were oldest (mean 66.7+/-15.1 years) and those with VABP were youngest (59.7+/-16.6 years). vHABP was associated with the highest chronic disease burden (mean Charlson score 4.1+/-2.8) and VABP with lowest (3.2+/-2.5). Patients with nvHABP had lowest severity of acute illness (ICU 58.0%, vasopressors 7.7%), and those with vHABP were most likely to require vasopressors (38.8%). The adjusted EF and RT in vHABP and VABP, and CDI rates, and adjusted post-infection onset hospital LOS across all groups were similar. The adjusted marginal post-infection onset ICU LOS and total hospital costs relative to nvHABP were 5.9 (95% CI 5.4, 6.3) days and $6,814 (95% CI $3,637, $9,991) in vHABP, and 6.5 (95% CI 6.0, 6.9) days and $16,782 (95% CI $13,446, $20,118) in VABP.

Conclusion. Both HABP and VABP remain associated with significant morbidity and HRU in the US. VABP was associated with the longest post-infection ICU LOS and highest hospital costs.

Reference

1. Zilberberg et al. Chest 2019;155:1119-30

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1323. Efficacy and Safety of Telavancin Compared to Vancomycin for Cystic Fibrosis Pulmonary Exacerbation in Adults

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Session: P-73. Respiratory Infections - Bacterial

Background. Telavancin (TLV) is an advanced generation lipoglycopeptide with activity against methicillin-resistant *Staphylococcus aureus* (MRSA), but there are limited patient outcomes in the setting of cystic fibrosis pulmonary exacerbation (CFPE). The study objective was to compare the efficacy and safety of TLV to vancomycin (VAN) in CFPE.

Methods. Retrospective cohort conducted from 1/2011-6/2020. Inclusion criteria were: i) age ≥16 years, ii) hospitalized for CFPE with documented signs/symptoms of infection, iii) confirmed or suspected MRSA lower respiratory tract infection, iv) receipt of ≥48 hours of TLV or VAN. The primary outcome was 30-day CFPE-related readmission: infection recurrence, clinical worsening on treatment, or ADE requiring readmission. Secondary outcomes included adverse drug events (ADE) on therapy: acute kidney injury (AKI), rash, thrombocytopenias, cardiac abnormalities.

Results. 101 patients were included: 52 (52%) TLV, 49 (49%) VAN. The median (IQR) age was 22 (21-27) years, 50% were women, and 86% were Caucasian. The majority (84%) of patients had some federal health insurance; 19% had private health insurance. 93% of patients used a maintenance cystic fibrosis (CF) medication, and 35% had previous CF-therapy compliance concerns. 62% had a previous positive culture for MRSA; 22 (43%) TLV patients had documented MRSA infection on admission compared to 41 (84%) VAN ($P< 0.001$). The median (IQR) time to TLV initiation from admission was 1 (0.8-1.4) days. 13 patients were readmitted within 30-days due to CFPE; 8 (15)% TLV vs. 5 (10%) VAN (unAdjOR, 0.63; 95%CI, 0.19-2.1). Reasons for 30-day CFPE: TLV: 7 infection recurrence, 1 clinical worsening; VAN: 2 clinical worsening, 2 infection recurrence, 1 treatment-related ADE. When accounting for confounders,