TLV was not associated with 30-day CFPE-related readmission (adjOR, 0.34, 95%CI, 0.1-1.2). Patients who received VAN more commonly experienced an ADE while hospitalized (18%), most notably AKI

Conclusion. TLV was associated with similar short-term clinical outcomes compared to VAN for treatment of CFPE due to confirmed or suspected MRSA. Patients who received TLV experienced fewer overall ADEs.

Disclosures. **Mahmoud Shorman, MD**, **Cumberland** (Grant/Research Support) **ghassan wadi, MD**, **Cumberland** (Grant/Research Support) **Michael P. Veve, Pharm.D.**, **Cumberland** (Grant/Research Support)**Paratek Pharmaceuticals** (Research Grant or Support)

1324. Identification of Local Risk Factors for *P. aeruginosa* in Community-acquired Pneumonia in a Veteran Population

Emily A. Gibbons, PharmD, AAHIVP[1]; Teri L. Hopkins, Pharm.D., BCIDP, BCPS[2]; Linda Yang, Pharm.D., BCIDP, BCPS[2]; Christopher R. Frei, PharmD, FCCP, BCPS[3]; Marcos I. Restrepo, MD, MSc, PhD[1]; Elizabeth Walter, MD, FACP[1]; Jose Cadena-Zuluaga, MD[4]; [1]South Texas Veterans Health Care System, San Antonio, Texas; [2]South Texas Veterans Health Care System, UT Health San Antonio, UT Austin College of Pharmacy, Baltimore, Maryland; [3]University of Texas at Austin College of Pharmacy/UT Health San Antonio, San Antonio, Texas; [4]University of Texas health and science center San Antonio, Audie L. Murphy VA Medical Center, San Antonio, Texas

Session: P-73. Respiratory Infections - Bacterial

Background. The 2019 ATS/IDSA community-acquired pneumonia (CAP) guidelines recommend empiric *P. aeruginosa* (PSA) coverage if locally validated risk factors are present. They further recommend obtaining local data on CAP pathogens to quantify risk factors and help guide clinical decision-making. To comply with the current guideline recommendations and to determine which patients may benefit from empiric anti-pseudomonal therapy, we aimed to characterize our institution's local risk factors for CAP caused by PSA.

Methods. This is a retrospective single-center matched cohort study of patients admitted to our institution with a CAP diagnosis and a positive respiratory culture who received antibiotic treatment in the past 19 years. Multivariate logistic regression was performed to assess the relationship between PSA and the following risk factors: severe or very severe COPD (FEV1 < 50% predicted), requiring invasive mechanical ventilation or vasopressor support in the first 24 hours of admission, history of PSA infection/colonization in the previous year, tracheostomy, bronchiectasis, long-term care facility residence and admission with receipt of IV antibiotics in the previous 90 days.

Results. A total of 343 patients were screened and 213 were included. Patients were mostly male (99%) with a median (IQR) age of 70 (63-76) years. Long-term care facility residence was removed from the model to prevent it from being over fit as it was related tracheostomy. In the multivariate analysis the only independently associated risk factor for PSA CAP was evidence during the prior year of PSA infection or colonization (OR 3.66; 95% CI 1.26 – 10.56; p = 0.018). Other risk factors that did not reach statistical significance but may be clinically significant included severe or very severe COPD (OR 2.52; 95% CI 2.52 – 6.38; p = 0.055) and tracheostomy (OR 5.28; 95% CI 0.74 – 38.85; p = 0.098).

Conclusion. The results of this study provide valuable data to help guide empiric CAP treatment at our institution. Based on these results, patients with PSA infection or colonization in the past year are appropriate to provide empiric anti-pseudomonal therapy for CAP. Further evaluation of severe or very severe COPD and tracheostomy would be beneficial to better characterize their role in PSA CAP.

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

1325. Recalibrating Estimates of Pneumococcal Disease in Hospitalized Canadian adults from 2010 to 2017 with Use of an Extended Spectrum Serotype-specific Urine Antigen Detection

Jason J. LeBlanc, PhD, FCCM, D[ABMM][1]; May ElSherif, MD[1]; Lingyun Ye[1]; Donna MacKinnon-Cameron, MMath[1]; Ardith Ambrose[1]; Todd F Hatchette, MD[1]; Amanda LS Lang, PhD, FCCM[2]; Hayley D Gillis, MSc[1]; Irene Martin, BSc[3]; Walter Demczuk[4]; Melissa K. Andrew, MD, PhD[5]; Guy Boivin, MD[6]; William Bowie, MD[7]; Karen Green[8]; Jennie Johnstone, MD, PhD[9]; Mark Loeb, FRCPC, MD[10]; Anne McCarthy, FRCPC, MD[11]; Allison McGeer, MSc,MD,FRCPC,FSHEA[12]; Makeda Semret, MD, M.Sc., FRCP(C)[13]; Sylvie Trottier[14]; Louis Valiquette, MD, M.Sc.[15]; Duncan Webster, MD, MSc, FRCPC[16]; Shelly McNeil, FRCPC, MD[1]; [1]Canadian Center for Vaccinology (CCfV), IWK Health Centre, Nova Scotia Health Authority (NSHA), and Dalhousie University, Halifax, Nova Scotia (NS), Halifax, NS, Canada; [2]Saskatchewan Health Authority, Regina, Saskatchewan, Canada; [3]National Microbiology Laboratory, Public Health Agency of Canada, Winnipeg, MB, Canada; [4]National Microbiology Laboratory (NML), Regina, MB, Canada; [5]Dalhousie University, Halifax, Nova Scotia, Canada; [6]Centre Hospitalier Universitaire de Québec, Québec, Québec, Quebec, QC, Canada; [7]Vancouver General Hospital, and University of British Columbia, Vancouver, BC, Vancouver, BC, Canada; [8]Mount Sinai Hospital, Toronto, ON, Toronto, Ontario, Canada; [9]Public Health Ontario and University of Toronto, Toronto, ON, Toronto, Ontario, Canada; [10]McMaster University, Hamilton, ON, Hamilton, Ontario, Canada; [11]Ottawa Hospital General Campus, Ottawa, ON, Ottawa, ON, Canada; [12]University of Toronto, Toronto, ON, Canada; [13]McGill University Health Centre, Montreal, QC, Montreal, QC, Canada; [14]Centre Hospitalier Universitaire de Québec, Québec, Québec (QC), Quebec, QC, Canada; [15]Université de Sherbrooke, Sherbrooke, Quebec, Canada, Sherbrooke, QC, Canada; [16]Saint John Regional Hospital, St. John, NB., Saint John, NB, Canada

Serious Outcomes Surveillance Network of the Canadian Immunization Research Network (CIRN SOS)

Session: P-73. Respiratory Infections - Bacterial

Background. Pneumococcal vaccine recommendations in Canada include both age- and risk-based guidance. This study aimed to describe the burden of vaccine-preventable pneumococcal community acquired pneumonia (pCAP) and invasive pneumococcal disease (IPD) by age in hospitalized adults.

Methods. Active surveillance for all-cause CAP and IPD in hospitalized adults was performed from 2010 to 2017, including laboratory results, patient demographics, and outcomes. *Streptococcus pneumoniae* was detected using blood and sputum culture, or urine antigen detection (UAD). Serotype was assigned using Quellung reaction, PCR, or serotype-specific UADs spanning the 24 serotypes in PCV13 and PPV23 vaccines. Data were categorized by age (16-49, 50-64, 65+, and 50+ years) and over time.

Results. 11129 ACP cases and 216 cases of IPD (non-CAP) were identified. A laboratory test for *S. pneumoniae* was performed in 8912 of ACP cases, identifying 1264 (14.2%) as pCAP. Compared to non-pCAP, pCAP cases were more likely to be admitted to intensive care units and require mechanical ventilation. These serious outcomes, as well as mortality, were more prominent in bacteremic pCAP and IPD. Risk factors for death in pCAP included aged 75+ years, immune compromising conditions, and BMI < 18.5. When categorized by age, the proportion of individuals aged 65+ years for pCAP and IPD was 49.8% and 48.6%, and the 50-64 year age cohort represented 31.3% and 29.9%, respectively. The contributions of PCV13 and PPV23 serotypes remained relatively stable over time, and overall represented 57.6% and 90.9% for pCAP, and 35.0% and 72.0% for IPD, respectively.

Conclusion. Seven years following infant PCV13 immunization programs in Canada, PCV13 and PPV23 serotypes in pCAP and IPD remained predominant causes of pneumococcal disease. Serious outcomes were particularly evident in adults 50+, suggesting pneumococcal vaccines should be encouraged in this age group.

Disclosures. **Jason J. LeBlanc, PhD, FCCM, D[ABMM]**, **GSK** (Research Grant or Support)**Merck** (Grant/Research Support)**Pfizer** (Grant/Research Support) **Todd F Hatchette, MD**, **GSK** (Grant/Research Support)**Pfizer** (Grant/Research Support) **Melissa K. Andrew, MD, PhD**, **GSK** (Grant/Research Support)**Pfizer** (Grant/Research Support, Advisor or Review Panel member)**Sanofi** (Consultant, Grant/Research Support, Advisor or Review Panel member)**Seqirus** (Advisor or Review Panel member) **Allison McGeer, MSc,MD,FRCPC,FSHEA**, **GlaxoSmithKline** (Advisor or Review Panel member)**Merck** (Advisor or Review Panel member, Research Grant or Support)**Pfizer** (Grant/Research Support, Scientific Research Study Investigator, Advisor or Review Panel member) **Louis Valiquette, MD, M.Sc.**, **Cubist** (Consultant)**GSK** (Grant/Research Support)**Merck** (Consultant)**Optimer** (Consultant)**Pfizer** (Grant/Research Support) **Shelly McNeil, FRCPC, MD**, **GSK** (Grant/Research Support)**Pfizer** (Grant/Research Support)**Sinofi Pasteur** (Grant/Research Support)

1326. Possible Predictors of Coinfection in COVID-19: Making a Difficult Diagnosis

Christopher J. Lehmann, MD[1]; Rohan N. Shah, BS[2]; Mengqi Zhu, PhD[3]; Natasha N. Pettit, PharmD[1]; Jessica Ridgway, MD[1]; Renslow Sherer, MD[1]; [1]University of Chicago Medicine, Chicago, Illinois; [2]University of Chicago Pritzker School of Medicine, Chicago, Illinois; [3]University of Chicago Medicin, Chicago, Illinois

Session: P-74. Respiratory Infections - Viral

Background. Coinfection with COVID-19 and a secondary pathogen contributes to morbidity and mortality. Despite its contribution to outcomes, diagnosing coinfection is challenging and no predictive tools have been established. To better assess risk factors for coinfection, we performed a review of all patients hospitalized for COVID-19 in our institution and evaluated them for candidate predictors of coinfection.

Methods. Medical records were reviewed in all patients admitted with COVID-19 at University of Chicago Medical Center between March 1, 2020 and April 18, 2020. Those identified as having coinfection were compared to those without coinfection. Secondary review was performed for characteristics of the coinfection, including diagnosis, microbiology, drug resistance, and nosocomial acquisition.

Results. 401 patients were included in the study, the mean age was 60 years (SD-17), 29% had severe disease, and 13% died. At least one test for coinfection was performed in 99% of patients. Coinfection was identified in 15% (72/401) of patients. Coinfection was associated with older age, disease severity, and hospital complications, such as DVT/PE, AKI, and delirium. [Table 1] No symptom, non-microbiologic test, radiograph, or preexisting condition was associated with coinfection. Dyspnea, chest pain, and obesity were more common in those without coinfection.

74% received antibiotics. The most common sites for coinfection were urinary 33%, lower respiratory 26%, and blood 24%. [Table2] Bacteria were most frequently recovered (82%). The most commonly recovered pathogens were *Enterobacterales* (42%), *Staphylococcus aureus* (12%), and *Pseudomonas* (4%). 42% of the infections were hospital acquired, 16% caused by MDRO, and 13% were catheter or ventilator associated.

Table 1. Clinical Characteristics Associated with Coinfection

	Coinfection		
	With mean/N (sd/%)	Without mean/N (sd/%)	P value
N	72	329	
Demographics			
Male Sex	38 (53)	154 (47)	0.43
Age	67 (17)	59 (17)	0.001
Disease Severity			
Moderate	29 (40)	204 (62)	
Severe	26 (36)	91 (28)	0.001
Deceased	17 (24)	34 (10)	
Diagnostics			
WBC > 15 x1000/uL	4 (6)	15 (5)	0.76
CRP > 100mg/L	33 (15)	110 (39)	0.1
Infiltrate on CXR	42 (58)	179 (55)	0.65
Presenting Symptoms			
Fever	46 (65)	232 (71)	0.36
Dyspnea	40 (56)	233 (72)	0.01
Cough	40 (60)	220 (69)	0.2
Chest pain	7 (11)	74 (23)	0.04
Rhinorrhea	8 (12)	48 (15)	0.7
Anosmia	2 (3)	15 (5)	0.75
Fatigue	29 (49)	115 (40)	0.25
Preexisting Conditions			
Hypertension	51 (72)	225 (68)	0.67
Diabetes	29 (41)	123 (38)	0.71
Obesity	12 (17)	121 (37)	0.001
Chronic Kidney Disease	21 (30)	75 (23)	0.29
COPD	13 (18)	77 (24)	0.42
Heart Failure	14 (20)	51 (16)	0.49
Cancer	13 (18)	43 (13)	0.34
Coronary Disease	13 (18)	40 (12)	0.24
Immunosuppressed	20 (28)	71 (22)	0.3
Hospital Complications			
ARDS	17 (24)	46 (14)	0.06
DVT/PE	19 (26)	25 (8)	< 0.001
MI	4 (6)	7 (2)	0.11
AKI	50 (69)	123 (37)	<0.001
Encephalopathy	37 (51)	64 (19)	<0.001

Abbreviations: sd, standard deviation; WBC, white blood cell count; CRP, C-reactive protein; COPD, chronic obstructive pulmonary disease; ARDS, acute respiratory distress syndrome; DVT, deep venous thrombosis; PE, pulmonary embolism; MI, myocardial infarction; AKI, acute kidney injury

Table 2. Characteristics of Coinfection

Variable	N (%)
Anatomy	
Urinary	31 (33)
Lower Airways	24 (26)
Blood Stream	22 (24)
Abdominal	13 (14)
Upper Airways	6 (6)
Multiple	8 (9)
Other	8 (9)
Microbiology	
Bacterial	77 (82)
Enterobacterales	39 (42)
Staphylococcus aureus	11(12)
Pseudomonas	4(4)
MDRO	15 (16)
Viral	12 (13)
Fungal	2 (2)
Multiple	2 (2)
Risk Factors	
Cath./Vent. Assoc.	12 (13)
Hospital Assoc.	39 (42)
Total	93 (100)

Abbreviations: Cath, catheter; Vent, ventilator; Assoc, Associated; MDRO, Multiple Drug Resistant Organism

Conclusion. Coinfection in COVID-19 was most closely associated with age, COVID-19 disease severity, and complicated hospitalization. No presenting symptoms, non-microbiologic test, or radiograph was associated with coinfection, underscoring the challenge in diagnosing coinfection. A remarkable number of infections were hospital acquired, MDRO, and catheter/ventilator associated. Further prospective study on coinfection in COVID-19 is needed to guide diagnosis and treatment.

Disclosures. **Renslow Sherer, MD**, **Gilead Sciences, Inc** (Grant/Research Support)