was not associated with a positive test (19% vs 20%, p = 0.834), but for US-born patients, having a history of travel was associated with a positive test (33% vs 14%, p = 0.039). For the Ss positive patients, 34% had a HTLV-I/II test, 48% had at least one stool test, and 76% were given treatment.

Conclusion. There is a significant seroprevalence of Ss in our transplant candidate population, both non-foreign and foreign-born, prompting the indication for universal screening at our facility.

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1387. Impact of Cytomegalovirus Prophylaxis on Healthcare Resource Use and Costs among Kidney Transplant Recipients: A United States Renal Data System-Medicare Linked Database Study

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Session: P-79. Transplant: Studies of Pre-transplant Screening and Evaluation

Background. Cytomegalovirus (CMV) management requires a balance between reducing the risk of CMV infection and avoiding anti-viral toxicities. Limited information is available on the impact of CMV prophylaxis on the healthcare resource use (HCRU) and costs among adult kidney transplant recipients (KTRs) in the United States. Therefore, we examined HCRU and cost associated with CMV prophylaxis stratified by the CMV risk categories among KTRs at 1-year post-KT.

Methods. We identified a cohort of 22,918 adults first-time KTRs during 2011–2017 using the US Renal Data System registry-linked Medicare data. Additional inclusion criteria were to have continuous coverage in Medicare Part A & B for ≥ 6-month pre- and ≥ 12-month post KT and Medicare Part D for ≥12-month post-KT. CMV prophylaxis was confirmed as ≥ 1 prescription fill for valacyclovir/(val)ganciclovir prophylaxis doses within 28 days post-KT.

Results. CMV prophylaxis was utilized in 86%, 82%, and 32% of high, intermediate, and low-risk KTRs with an average cost of prophylaxis per KTRs of $16,241, $9481, and $8,648, respectively. In no prophylaxis groups, valganciclovir was utilized in 52%, 34%, and 36% of KTRs (as either pre-emptive or deferred therapy) with an average cost of $6,719, $2,722, and $431 among high, intermediate, and low-risk KTRs, respectively. Among high-risk KTRs, CMV prophylaxis group had a significantly higher prescription drug cost ($26,060 vs. $13,433) but a lower average direct healthcare medical cost ($84,914 vs. $101,268), mainly due to lower all-cause hospitalization cost ($56,758 vs. $69,852) (**Table 1**). CMV prophylaxis group had lower rates of all-cause rehospitalization, and CMV-and opportunistic infection (OIs)-related hospitalization compared to no prophylaxis (**Table 2**). In high-risk KTRs, nearly 32% had myelosuppressive events-related hospitalization, and 15% filled granulocyte colony-stimulating factors with an average cost of $4,695 per treated KTR.

Conclusion. CMV prophylaxis had a higher cost of medications but had a lower medical cost with including all-cause and CMV-related hospitalizations. Myelosuppressive events were frequent and resource-intensive especially in high and intermediate-risk KTRs.

Table 1. Univariate analysis on Direct Healthcare Cost (2019 USD[b]) by CMV prophylaxis among adults KTRs at 12-month post-transplant

	CMV Prophylaxis Use Stratified by CMV Risk Strata								
	High (D+/R-) (N=3,520)			Intermediate (R+) (N=16,957)			Low (D-/R-) (N=2,441)		
Outcomes	Yes	No	Sig.*	Yes	No	Sig.*	Yes	No	Sig.*
Sample Size	3,022 (85.6%)	498 (14.1%)		13,975 (82.4%)	2,982 (17.6%)		784 (32.1%)	1,657 (67.9%)	
Healthcare Costs									
Medical (Inpatient, ER, Out, SNF, HH)	$84,914 (67,811)	$101,268 (90,071)	<0.001	$79,888 (59,331)	$92,149 (80,836)	<0.001	$82,501 (54,605)	$80,046 (64,800)	
Inpatient hospitalization	$56,758 (54,035)	$69,852 (76,964)	<0.001	$52,949 (46,882)	$62,997 (73,548)	<0.001	$54,257 (41,650)	$52,562 (49,208)	
CMV-related	$3,908(18,843)	$7,183 (32,330)	0.028	$933 (8,208)	$1,945(11,789)	<0.001	383.114 (4,883.3)	542.550	
OI-related	$13,282 (35,399)	$21,446 (49,708)	0.001	$12,102 (31,496)	$18,309 (48,303)	<0.001	$10,455 (26,502)	$11,908 (30,524)	
Myelosuppression-related	$9,932 (23,169)	$14,043 (34,186)	0.010	$8,011 (20,689)	$10,436 (33,019)	0.000	8389.955	$6,614 (18,333)	0.067
Emergency Room (ER) Visit	$656 (1,254)	$633 (1,400)		602.347 (1,233.7)	$564 (1,139)	0.097	627.814 (1,904.6)	$643 (1,526)	
CMV-related	$78(126)	$17 (193)		$2 (75)	$2 (55)		$0 (0)	$8 (282)	
OI-related	$32 (239)	$22 (141)		$27 (223)	$24 (179)		$21 (219)	$25 (221)	
Myelosuppression-related	$41(258)	$52 (324)		$26 (236)	$28 (267)		$26 (206)	$19 (171)	
Outpatient	$9,787 (18,019)	$9,557 (11,804)		$8,881 (17,965)	$9,404 (25,110)		$10,226 (18,854)	$9,254 (24,902)	
Office-visit	$9,992 (9,939)	$11,199 (10,196)	0.012	9800.399	$10,111 (10,218)		$9,178 (7,546)	$9,687 (8,176)	
Durable Medical Equipment (DME)	$5,099 (4,771)	$4,917 (4,335)		5392.172	$5,479 (6,421)		$6,013 (5,605)	$5,612 (5,364)	0.089
Home-Health (HH)	$1,532 (2,814)	$2,044 (3,507)	0.002	$1,602 (3,066)	$1,800 (3,265)	0.002	$1,513 (2,892)	$1,308 (2,605)	0.091
Skilled Nursing Facility (SNF)	$1,080 (5,773)	$3,050 (11,829)	<0.001	$651 (4,315)	$1,655 (7,127)	<0.001	$668 (4,337)	$958 (5,056)	
All Pharmacy Claims	$26,060 (23,714)	$13,433 (18,215)	<0.001	$20,085 (24,410)	$10,772 (22,566)	<0.001	$18,237 (21,350)	$8,590 (25,552)	<0.001
CMV Medications	$16,241 (11,235)	$6,793 (10,061)	<0.001	$9,481 (7,103)	$2,768 (5,836)	<0.001	$8,649 (6,638)	$475 (2,879)	<0.001
Acyclovir	$2 (32)	$3 (34)		$2.7 (51)	$17 (146)	<0.001	$1 (18)	$23 (329)	0.008
Valacyclovir	$1 6 (21)	$3 (34)		$2 (30)	24 (134)	<0.001	$2 (21)	$17 (77)	<0.001
Ganciclovir	$24 (380)	$68 (835)		$1 (40)	$4 (90)		$0 (0)	$0 (9)	
Valganciclovir	$16,213 (11,208)	$6,719 (9,952)	<0.001	$9,473 (7,099)	$2,722 (5,843)	<0.001	$8,646 (6,639)	$432 (2,856)	<0.001
GCSF related	$653 (3,136)	$726 (2,983)		$356 (3,002)	$215 (1,558)	0.000	$203 (1,405)	$205 (2,430)	
Total Cost Medical and Pharmacy	$110,974 (73,100)	$114,701 (93,405)		$99,973 (66,733)	$102,921 (95,034)		$100,738 (60,733)	$89,036 (72,334)	<0.001

Notes:
[b]All cost data were adjusted to 2019 US dollars using the consumer price index.
*Significant differences between the groups were determined by t-tests or analysis of variance (ANOVA) for continous variables.

Abbreviations:
CMV: cytomegalovirus; D+/R- = CMV-seropositive kidney donor and CMV-seronegative recipient; R+ = CMV-seropositive recipient; D-/R- =CMV-seronegative donor and CMV-seronegative; G-CSF: granulocyte colony-stimulating factor; OI: opportunistic infection; SD: standard-deviation

Table 2. Univariate analysis on Healthcare Resource Use by CMV prophylaxis among adults KTRs at 12-month post-transplant

HealthCare Resource Use	CMV Prophylaxis Use Stratified by CMV Risk Strata								
	High (D+/R-) (N=3,520)			Intermediate (R+) (N=16,957)			Low (D-/R-) (N=2,441)		
	Yes	No	Sig.*	Yes	No	Sig.*	Yes	No	Sig.*
Sample Size	3,022 (85.6%)	498 (14.1%)		13,975 (82.4%)	2,982 (17.6%)		784 (32.1%)	1,657 (67.9%)	
All cause hospitalization									
Inpatient hospitalization	3,022 (100.0%)	498 (100.0%)		13,972	2,980 (99.9%)		784 (100.0%)	1,655 (99.9%)	
CMV-related	432 (14.3%)	105 (21.1%)	<0.001	530 (3.8%)	196 (6.6%)	<0.001	10 (1.3%)	19 (1.1%)	
OI-related	997 (33.0%)	220 (44.2%)	<0.001	4,471 (32.0%)	1,079 (36.2%)	<0.001	225 (28.7%)	502 (30.3%)	
Myelosupression-related	961 (31.8%)	175 (35.1%)		3,548 (25.4%)	733 (24.6%)		205 (26.1%)	374 (22.6%)	0.052
Re-hospitalization	1,846 (61.1%)	337 (67.7%)	0.005	7,833 (56.1%)	1,775 (59.5%)	0.001	464 (59.2%)	900 (54.3%)	0.024
Length of Stay, mean (SD)	19.7 (22.8)	27.8 (33.7)	<0.001	17.5 (20.0)	22.1 (28.4)	<0.001	17.5 (18.2)	18.0 (21.3)	
Emergency Room Visit	1,557 (51.5%)	243 (48.8%)		6,975 (49.9%)	1,422 (47.7%)	0.027	386 (49.2%)	846 (51.1%)	
CMV-related	19 (0.6%)	8 (1.6%)	0.020	23 (0.2%)	5 (0.2%)		0 (0.0%)	2 (0.1%)	
OI-related	101 (3.3%)	18 (3.6%)		440 (3.1%)	91 (3.1%)		21 (2.7%)	44 (2.7%)	
Myelosupression-related	114 (3.8%)	22 (4.4%)		329 (2.4%)	71 (2.4%)		18 (2.3%)	32 (1.9%)	
# of office visits, mean (SD)	82.541 (73.8)	92.237 (82.9)	0.014	78.653 (67.2)	81.483 (79.9)	0.071	72.870 (61.7)	81.215 (68.8)	0.003
Outpatient	3,010 (99.6%)	497 (99.8%)		13,923 (99.6%)	2,970 (99.6%)		781 (99.6%)	1,649 (99.5%)	
Durable Medical Equipment	2,643 (87.5%)	433 (86.9%)		12,395 (88.7%)	2,496 (83.7%)	<0.001	689 (87.9%)	1,501 (90.6%)	0.040
Home-Health	1,190 (39.4%)	233 (46.8%)	0.002	5,285 (37.8%)	1,207 (40.5%)	0.007	292 (37.2%)	571 (34.5%)	
Skilled Nursing Facility	173 (5.7%)	71 (14.3%)	<0.001	580 (4.2%)	247 (8.3%)	<0.001	33 (4.2%)	103 (6.2%)	0.044
				13,975					
CMV Medication	3,022 (100.0%)	275 (55.2%)	<0.001	(100.0%)	1,529 (51.3%)	<0.001	784 (100.0%)	603 (36.4%)	<0.001
Acyclovir	45 (1.5%)	22 (4.4%)	<0.001	224 (1.6%)	463 (15.5%)	<0.001	11 (1.4%)	404 (24.4%)	<0.001
Valacyclovir	51 (1.7%)	9 (1.8%)		312 (2.2%)	203 (6.8%)	<0.001	19 (2.4%)	141 (8.5%)	<0.001
Ganciclovir	24 (0.8%)	6 (1.2%)		16 (0.1%)	9 (0.3%)	0.016	0 (0.0%)	2 (0.1%)	
Valganciclovir	3,022 (100.0%)	260 (52.2%)	<0.001	(100.0%)	1,021 (34.2%)	<0.001	784 (100.0%)	93 (5.6%)	<0.001
G-CSF	448 (14.8%)	77 (15.5%)		1,161 (8.3%)	162 (5.4%)	<0.001	58 (7.4%)	58 (3.5%)	<0.001

Notes:
*Significant differences between the groups were determined by t-tests or analysis of variance (ANOVA) for continous or chi-square tests for categorical variables.

Abbreviations:
CMV: cytomegalovirus; D+/R- = CMV-seropositive kidney donor and CMV-seronegative recipient; R+ = CMV-seropositive recipient; D-/R- =CMV-seronegative donor and CMV-seronegative; G-CSF: granulocyte colony-stimulating factor; OI: opportunistic infection; SD: standard-deviation

Disclosures. **Amit D. Raval, PhD**, **Merck and Co., Inc.** (Employee) **Yuexin Tang, PhD**, **JnJ** (Other Financial or Material Support, Spouse's employment)**Merck & Co., Inc.** (Employee, Shareholder)

1388. Epidemiology and Treatment Outcomes of Nontuberculous Mycobacterial Infections at a Community Teaching Hospital in the Southeastern United States

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Session: P-80. Tuberculosis and other Mycobacterial Infections

Background. Gaps in evidence concerning the epidemiology of nontuberculous mycobacterial (NTM) organisms and their associated treatment outcomes are evident in the literature. The aim of this study was to describe NTM species distribution and susceptibility profile and associated treatment outcomes among adult patients at a tertiary referral hospital in the Southeastern United States.

Methods. A retrospective cohort study of adult patients with NTM infections from January 1, 2010 to June 30, 2020 was performed. Included patients had a positive culture for NTM species and clinical suspicion of infection. Patients were excluded if they had concurrent positive culture for *M. tuberculosis* (MTB) or monomicrobial culture for *M. gordonae*. Study endpoints included predictors for favorable treatment outcome, species distribution, and susceptibility at baseline. Favorable treatment outcome was defined as physician-guided cessation of therapy due to clinical improvement. Univariate followed by multivariate regression analysis was used to analyze favorable predictors.

Results. A total of 250 and 78 patients were included in microbiologic and outcomes cohorts, respectively. Among treated patients, 47 (60%) had a favorable treatment outcome. The outcomes cohort consisted primarily of non-Hispanic Caucasians (71%) with pulmonary infection (67%). The most common isolates observed were *Mycobacterium avium complex* (MAC) (67%) and *M. abscessus* (18%). Being self-pay, underweight, history of MTB treatment, and concurrent asthma were more common in those with unfavorable treatment outcomes. The significant favorable predictors included antibiotic change not due to escalation or de-escalation of therapy and private insurance. Among MAC isolates, clarithromycin and amikacin were highly susceptible; however, *M. abscessus* has reduced susceptibility to first-line agents such as amikacin, clarithromycin, and cefoxitin (Table 1).

Table 1. Baseline Susceptibility

	Ciprofloxacin	Moxifloxacin	Clarithromycin	Linezolid	Amikacin	Tobramycin	SXT	Cefoxitin	Imipenem	Doxycycline	Minocycline	Tigecycline	Rifampin	Rifabutin	Ethambutol
# of isolates	11	53	53	53	52	---	2	1	1	1	1	1	---	2	3
MAC	0	96.2	98	77.4	96.2	---	NA	0	0	NA	0	NA	---	50	0
# of isolates	---	---	2	---	---	---	---	---	---	---	---	---	---	2	---
M. kansasii	---	---	100	---	---	---	---	---	---	---	---	---	---	100	---
# of isolates	3	3	5	3	5	---	4	1	1	3	1	---	3	1	3
Other Slow Growers*	100	100	80	100	100	---	75	100	100	66.7	100	---	100	100	66.7
# of isolates	44	44	44	44	44	--	44	44	41	44	43	27	---	---	---
M. abscessus	0	0	34.1	43.2	86.4	--	0	13.6	0	0	0	100	---	---	---
# of isolates	5	5	5	5	---	5	4	5	5	5	5	4	---	---	---
M. chelonae	0	0	100	100	---	100	0	0	0	0	0	100	---	---	---
# of isolates	14	14	12	14	14	---	14	14	14	14	14	9	---	---	---
M. fortuitum	100	100	8.3	100	100	---	85.7	14.3	57.1	28.6	42.9	100	---	---	---
# of isolates	8	8	8	8	8	---	8	8	8	8	7	6	---	---	---
Other Rapid Growers**	62.5	87.5	62.5	87.5	87.5	---	87.5	25	78	50	57.1	100	---	---	---

*Other slow growers: *M. marinum* (n = 2), *M. neoaurum* (n = 1), *M. haemophilum* (n = 2)
**Other rapid growers: *M. mucogenicum* (n = 3), *M. brisbanense* (n = 1), *M. goodii* (n = 2), *M. smegmatis* (n = 1), *M. immunogenum* (n = 1)
NA: No CLSI or laboratory interpretation; MAC: *Mycobacterium avium complex*; SXT: sulfamethoxazole/trimethoprim

Conclusion. Considering the long incubation time, knowledge of prevalence, antimicrobial susceptibility patterns, and outcomes could guide empirical antimicrobial selection for NTM infections. This is particularly useful for *M. abscessus* infections where most isolates carry significant resistance to one or more first-line agents.

Disclosures. **Julie Ann Justo, PharmD, MS, BCPS-AQ ID**, **bioMerieux** (Speaker's Bureau)**Merck & Co.** (Advisor or Review Panel member)**Therapeutic Research Center** (Speaker's Bureau)**Vaxart** (Shareholder) **P. Brandon Bookstaver, Pharm D**, **ALK Abello, Inc.** (Grant/Research Support, Advisor or Review Panel member)**Biomerieux** (Speaker's Bureau)**Kedrion Biopharma** (Grant/Research Support, Advisor or Review Panel member)

1389. Nontuberculous Mycobacterial Infections of the Upper Extremity

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Session: P-80. Tuberculosis and other Mycobacterial Infections

Background. Although uncommon, nontuberculous mycobacterial infections (NTMI) of the upper extremity cause significant morbidity based on their natural history, delay in diagnosis, prolonged duration of antimicrobial therapy often combined