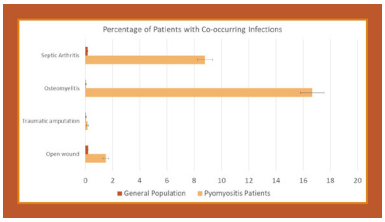

Disclosures. **All authors:** No reported disclosures.

766. Telehealth Practices, Barriers, and Future Interest among Pediatric Infectious Disease Clinicians in the United States: Results from the 2019 Pediatric Infectious Diseases Society (PIDS) Telehealth Working Group Survey

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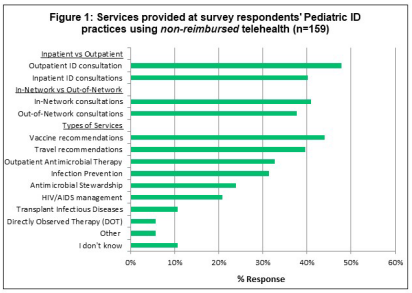
Background. There is a paucity of access to pediatric infectious diseases (PID) physicians in the United States. To improve access, PID clinicians spend significant time providing nonreimbursed curbside consultations (CCs) to community providers. While there is increasing utilization of telehealth technologies to increase access to PID physicians, there is limited knowledge regarding adoption of these technologies and how they may be used to improve care and reimbursement.

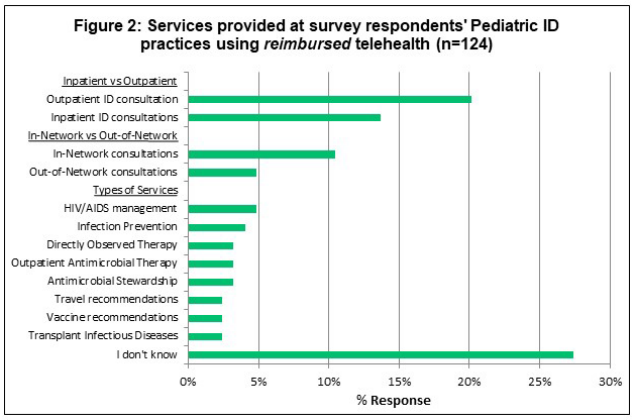
Methods. The PIDS Telehealth Working Group developed a 33-question online survey to collect individual- and practice-level data on the burden of CCs, current telehealth practices and barriers, and interest in providing future telehealth services. It was emailed to the PIDS Listserv (n = 1,213) in April 2019.

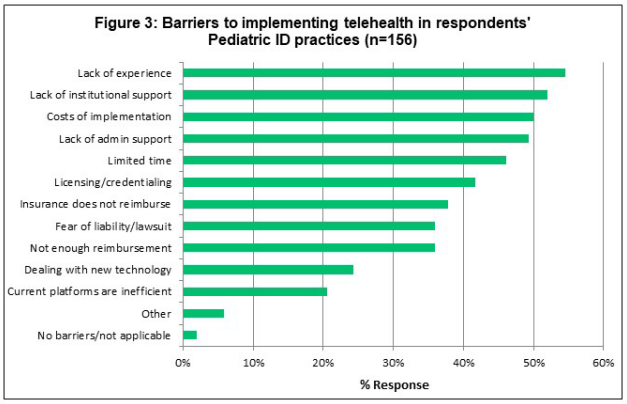
Results. A total of 161 (13%) providers completed the survey (100% MD/DO), representing 37 states; most are university- (n = 100, 62%) and/or hospital- (n = 74, 46%) employed. Respondents' practices provide a mean of 1–10 CCs/week to outside institutions (median 3–5 hours/week), with a median of 6–10% resulting in referrals. Outside *nonreimbursed* CCs are performed by phone/paging systems (n = 156, 98%), secure email (n = 66, 42%), text messaging (n = 46, 29%), and EMR-messaging (n = 38, 24%); they include a variety of services (Figure 1). Only 46 (29%) of individual respondents provide any type of *reimbursed* telehealth at their practices (Figure 2). Reimbursement mechanisms include fee-for-service (31%), Medicaid/Medicare (25%), private insurance (24%), and internal institutional (i.e., internal RVU) payments (16%). The majority of respondents were unaware of credentialing (n = 90, 64%) and liability coverage needs for telehealth (n = 68, 47%). Though most respondents (n = 81, 57%) were not satisfied with their current telehealth program and barriers were significant (Figure 3), the majority (n = 144, 95%) were interested in implementing a variety of reimbursable telehealth services and modalities (Figure 4).

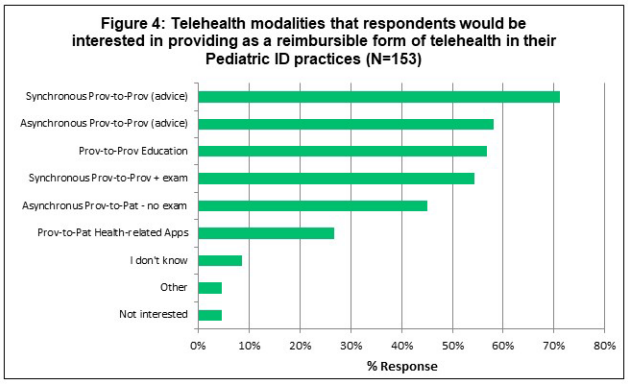
Conclusion. PID survey respondents indicated a lack of knowledge on key aspects of telehealth and perceive significant barriers to implementing telehealth at their institutions. Nonetheless, there is a strong interest in participating in a variety of telehealth services to increase access to care, with appropriate institutional support.



Legend: *The survey defined "telehealth" as the following: the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration. Technologies include videoconferencing, the internet, store-and-forward imaging. Telehealth encompasses a broad scope of health remote healthcare services, and includes remote clinical services (telemedicine). In order to be inclusive, we will use the more broadly defined "telehealth." For more information, see [1] and [2].
[1] DHS website: Health Resources Services Administration (HRSA). What is telehealth? Available at: http://www.healthit.gov/providers-professionals/faqs/what-telehealth-how-telehealth-different-telemedicine.
[2] IDSA position paper on telehealth/telemedicine. Available at: https://academic.oup.com/cid/article/64/3/237/2912592.







Legend: Abbreviations: Prov=Provider, Pat=Patient.

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

767. Can Integration of Addiction Treatment Facilitate Safe Discharge on OPAT for Patients with Infectious Complications of Injection Drug Use?

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Background. While there is a growing body of evidence that suggests outpatient parental antibiotic treatment (OPAT) for people who inject drugs (PWID) may be safe, research on integrating OPAT with addiction treatment for PWID has been limited.

Methods. Adults hospitalized for infectious complications of injection drug use (IDU) requiring prolonged IV antibiotics were included in this study. The suitability for OPAT was determined by the infectious disease and addiction consultation services. Eligibility criteria included safe housing, attendance at infectious disease (ID) clinic visits, and engagement with addiction treatment. Demographic and clinical outcomes were summarized, and compared with patients without any IDU history enrolled in OPAT during the same time at the same institution.

Results. Eighteen OPAT episodes among 17 individuals were included, with 9 (50.0%) males. Mean age was 38.4 (SD 9.5). Types of infection included endocarditis

(38.9%), epidural abscess (38.9%), and bone/joint infections (33.3%). Opioid use disorders (OUD) were most common (94.4%), followed by cocaine (33.3%) and benzodiazepines (16.7%). All individuals completed the recommended course of IV antibiotics. All OUD patients received buprenorphine (52.9%) or methadone (47.1%). Two (11.1%) relapsed to drug use during OPAT, but no instances of line tampering, thrombosis, line infection or line dislodgement were identified. No deaths or overdoses were reported. Collectively, 504 inpatient days were avoided. Compared with 390 individuals without any history of IDU, those with IDU history were significantly younger (38.4 vs. 59.0, $P < 0.0001$), had fewer episodes of endocarditis (38.9% vs. 43.6%) and bone/joint infections (33.3% vs. 41.8%), but more epidural abscesses (38.9% vs. 3.1%). There were no statistical differences in rates of readmission (22.2% vs. 11.3%), line complications (0% vs. 3.5%), mortality (0% vs. 1.0%), ID clinic visit attendance (100.0% vs. 82.0%), or number of days on OPAT (28.0 vs. 30.1).

Conclusion. Results add further evidence of OPAT's safety among PWID and that integration of addiction treatment may be feasible. OPAT outcomes were similar to those without any IDU history. More research is needed to study the impact of integrating addiction treatment with OPAT for PWID.

Table 1: Summary of demographic and clincial variables of those with and without history of injection drug use.

	History of IDU (n=18)	No history of IDU (n=390)	p
Age (SD)	38.4 (SD 9.5)	59.0 (SD 15.2)	P<0.0001
Gender	M: 9 (50.0%)	M: 160 (41.0%)	NS
Site of infection			
Bacteremia and Endocarditis	7 (38.9%)	170 (43.6%)	P<0.001
Diabetic foot/fracture fixation/osteomyelitis/septic arthritis/prosthetic joint infection	6 (33.3%)	177 (45.4%)	
Epidural abscess	7 (38.9%)	12 (3.1%)	
Other	0	170 (45.1%)	
OPAT outcomes			
Readmission	4 (22.2%)	44 (11.3%)	NS
Line complication	0	10 (3.5%)	NS
Death	0	4 (1.0%)	NS
Returned to infectious disease clinic visits	18 (100.0%)	318 (82.0%)	NS
No of days on OPAT (SD)	28.0 days (SD 11.4)	30.1 days (SD 29.4)	NS
OPAT completion	18 (100.0%)	390 (100.0%)	NS
SUD history and outcome			
SUD diagnosis	Opioids: 17 (94.4%) Cocaine: 6 (33.3%) Benzodiazepines: 3 (16.7%) Alcohol: 2 (11.1%) Amphetamines: 2 (11.1%)	N/A	N/A
Medications for opioid use disorder (n=17)	Buprenorphine: 9 (52.9%) Methadone: 8 (47.1%)	N/A	N/A
Relapse during OPAT	2 (11.1%)	N/A	N/A

OPAT = Outpatient parenteral antimicrobial therapy
IDU = Injection drug use
SUD = Substance use disorder

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

768. Use of a Machine-Learning-based Prediction Model to Guide Antibiotic De-escalation in the Treatment of Urinary Tract Infections

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Background. A patient-specific antibiogram (PS-ABG) issues personalized predicted antibiotic susceptibility results by incorporating patient factors into a prediction model. Predictions, reported as percent likelihood of susceptibility, are available to providers in real-time. In this study, we evaluated the performance characteristics of a PS-ABG based on a machine-learning algorithm in predicting susceptibility of Enterobacteriaceae isolated on urine cultures.

Methods. This cross-sectional study included 2,517 urine cultures with Enterobacteriaceae collected from 2,211 unique patients over a 12-week period from January 1 through April 15, 2019 in a single health system. Receiver operating curves (ROC) were generated for commonly prescribed antibiotics to assess discrimination. Threshold values to determine when an antibiotic could be used were then determined based on ROC curves. Brier scores were generated for all antibiotics collectively and for individual antibiotics to evaluate the accuracy of the predictions compared with that of the usual practice (UP) of traditional antibiograms.

Results. The ability of the PS-ABG to discriminate susceptible and nonsusceptible isolates varied by antibiotic [area under the curve (AUC) range: 0.71 - 0.95]. When all antibiotics were considered, AUC was 0.88 (95% C.I. 0.88 – 0.89). Brier score ranged from 0.0037 - 0.2087, representing between a 9 - 56% improvement compared with UP. For all antibiotics, the software had a 32% improvement over UP (median Brier score 0.0794 v. 0.1114, $P < 0.0001$). Overall, a susceptibility threshold of 95% was associated with a specificity of 96%. A threshold of 95% was associated with a ≥90% specificity in all agents except for cefepime (specificity 70%) and meropenem (specificity 73%). For cefepime and meropenem, specificity reached 90% at a threshold of 97%.

Conclusion. The PS-ABG demonstrated excellent discriminatory power for all antibiotics tested and was more accurate than UP. A cutoff of 95% likelihood of susceptibility affords high specificity for most agents and may be a reasonable threshold for selecting an appropriate antibiotic. A higher susceptibility threshold yields similar specificity for cefepime and meropenem, but this finding is likely a result of the low number of resistant isolates.

Antibiotic	AUC	95% C.I.	Brier PAT	Brier UP
All Agents	0.89	0.88, 0.89	0.0794	0.1173
Amoxicillin-Clavulanate	0.77	0.75, 0.79	0.1289	0.1626
Ampicillin	0.75	0.73, 0.77	0.1965	0.2504
Aztreonam	0.88	0.84, 0.91	0.0516	0.1176
Cefazolin	0.81	0.79, 0.83	0.077	0.098
Cefepime	0.86	0.85, 0.88	0.0404	0.0743
Ceftriaxone	0.87	0.86, 0.89	0.0485	0.0922
Levofloxacin	0.86	0.85, 0.87	0.1038	0.1773
Meropenem	0.95	0.94, 0.96	0.0037	0.005
Nitrofurantoin	0.71	0.59, 0.83	0.2089	0.2301
Piperacillin-Tazobactam	0.82	0.78, 0.86	0.0842	0.1249
TMP-SMX	0.81	0.80, 0.83	0.12	0.1732

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

769. Comparison of Vancomycin Continuous and Intermittent Infusion Dosing Strategies Among Patients in an Outpatient Antimicrobial Therapy Program

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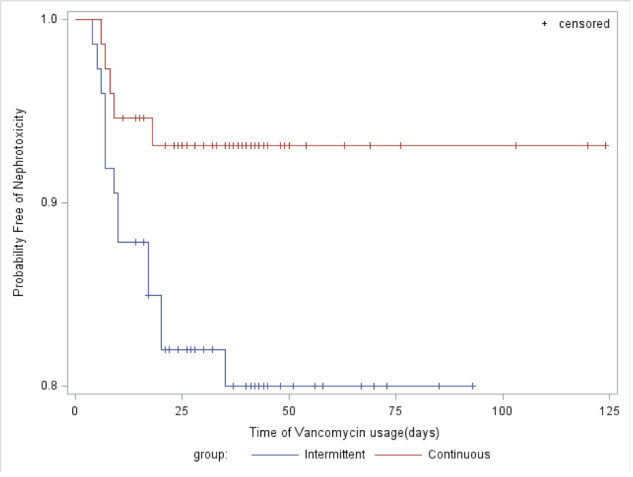
Background. Vancomycin may be administered via intermittent infusion (I-I) or continuous infusion (C-I). C-I vancomycin has advantages including the potential for less nephrotoxicity; however, available data are inconsistent and varies based on inpatient and outpatient settings. Thus, the primary objective of this study was to compare rates of nephrotoxicity in patients who received C-I or I-I vancomycin in an outpatient parenteral antimicrobial therapy (OPAT) program. Secondary objectives included time to onset of nephrotoxicity and clinical failure.

Methods. This was a single-center, propensity score-matched, retrospective cohort study of patients who received C-I or I-I vancomycin for at least one week in the OPAT program between October 1, 2017 and March 31, 2019. Exclusion criteria included patients lost to follow-up, age less than 18 years old, and those requiring renal replacement therapy. Nephrotoxicity was defined as a serum creatinine (Scr) increase of >0.5 mg/dL or >50% from baseline for two consecutive measurements. Clinical failure was defined as unplanned readmission, extension of planned therapy, or change in antibiotic therapy.

Results. Three hundred patients were identified who received C-I or I-I vancomycin. After propensity score matching and exclusion criteria were applied, 74 patients were included in each cohort. Demographic information was similar between cohorts including baseline Scr, age, gender, comorbidities, concurrent nephrotoxins, indication, and vancomycin duration. C-I was associated with a 3.22-fold decrease in nephrotoxicity risk when compared with I-I [C-I: 6.8% vs. I-I 18.9%; OR (95% CI): 3.22 (1.10–9.46), P =0.027]. C-I was associated with a significantly slower onset to nephrotoxicity compared with I-I ($P = 0.035$; Figure 1). A significant difference in clinical failure was not observed between C-I and I-I (10/74, 13.7% vs. 17/74, 23.0%; $P = 0.147$).

Conclusion. C-I vancomycin was associated with a lower nephrotoxicity risk and slower onset to nephrotoxicity, but no difference in clinical failure rates when compared with I-I.



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