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Background. IV piggyback (IVPB) infusion has been the standard method of administration of IV antibiotics since the 1970s. Literature has demonstrated that the IV push (IVP) method has similar pharmacokinetic exposures and risk for complications as short infusion IVPB, and may have potential benefits. The primary objective is to evaluate the incidence of infusion-related complications in patients receiving cefazolin, ceftriaxone, and cefepime administered via IVP versus short infusion IVPB at the Veteran Affairs Long Beach Healthcare System. The secondary objectives include evaluating the time-to-onset of complications, time-to-first-dose combination vancomycin in the emergency department (ED), cost, and nursing and pharmacy staff preference between IVP and IVPB.

Methods. This is a retrospective, single-center cohort study. Patients who received ceftriaxone, cefepime, or cefazolin between April 1st, 2019 – December 31st, 2019, and April 1st, 2020 – December 31st, 2020 were included. Patients who received the study antibiotics via IVPB during the IVP period were excluded. Statistical analyses were performed using the chi-square, fisher's exact, Mann-Whitney U, and unpaired t-tests where appropriate. Complications associated with IVP or IVPB administration were assessed via chart review of electronic health records. Surveys to nursing and pharmacy staff were distributed using Microsoft Forms.

Results. 366 treatment episodes were evaluated for 355 unique patients. Complications occurred in 13 out of 183 (7.1%) treatment episodes in the IVP group compared to 18 out of 183 (9.8%) treatment episodes in the IVPB group (P = 0.35). The median time to complications was 2 days for both groups. IVP cefepime and ceftriaxone reduced the median time-to-first-dose vancomycin in the ED by 25 minutes. The use of cefazolin, ceftriaxone, and cefepime as IVP yielded a quarterly cost savings of \$38,890.04. 55% of nursing staff and 85% of pharmacy staff prefer IVP administration for cefazolin, ceftriaxone, and cefepime.

Conclusion. Cefazolin, ceftriaxone, and cefepime given as IVP were observed to be as safe as IVPB while reducing time-to-first dose vancomycin in the ED and cost, and is the preferred method of administration among nursing and pharmacy staff.

Disclosures. All Authors: No reported disclosures

603. Misdiagnosis of Lyme Disease in Patients Referred to an Academic Lyme Center

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Background. Confusion and controversy surround various aspects of Lyme Disease (LD) including diagnosis. Typically, the diagnosis of LD is based on tick exposure, clinical history, exam, and laboratory testing. Laboratory testing and interpretation can be confusing, difficult, and a source of misdiagnosis.

Methods. One hundred and fifteen records of patients referred to the Integrated Lyme Program at University of Maryland for evaluation of LD were analyzed. All patients underwent initial evaluation by Infectious Disease (ID) physician who made a determination regarding Lyme diagnosis based on history, exam, epidemiologic risk factors and laboratory test results. Pt were determined to have one of the following diagnoses: 1) Acute LD 2) Past LD 3) Post Treatment Lyme Disease Syndrome (PTLDS) 4) Misdiagnosed LD. Data was also collected on reasons for misdiagnosis based on record review, referral information and patient reported information.

Results. We evaluated 115 patient records from our Lyme Program Registry. There were 78 female (68%) and 37 males (32%). The mean age was 46 years (range 19 to 83). Of the 115 records analyzed, there were 8 (7%) patients with acute Lyme disease; 38 (33%) patients with past Lyme disease, 3 (2.6%) patients with PTLDS and 93 (81%) of patients who were misdiagnosed with LD. Patients were misdiagnosed for multiple reasons and by different people. Twenty three percent (21/93) were misdiagnosed based on false positive IGM Western Blot; 16% (15/93) were misdiagnosed based on misread IGG Western Blot and 14% (13/93) were misdiagnosed based on unconventional Lyme test. The remainder were misdiagnosed based on symptoms. Forty two percent (39/93) were misdiagnosed by PCP; 4.3%(3/93) were misdiagnosed by Urgent/Emergent care physician and 31% (29/93) were misdiagnosed by physicians' self-referred as Lyme Literate Medical Doctor. The remainder were incorrectly self-diagnosed by patients based on symptoms.

Conclusion. Misdiagnosis of patients referred to Lyme Center is common and due to various reasons including misinterpretation of laboratory Lyme testing by healthcare providers and misinterpretation of symptoms by patients.

Disclosures. All Authors: No reported disclosures

604. Impact of COVID-19 Pandemic on Telehealth Practices in Pediatric Infectious Diseases

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PIDS Telehealth Working Group and *PIDS: Pediatric Infectious Diseases Society; PICNIC: Pediatric Investigators Collaborative Network on Infections in Canada;

AMMI: Association of Medical Microbiology and Infectious Disease Canada; AAP: American Academy of Pediatrics-Section of Infectious Diseases

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Background. The COVID-19 pandemic has led to changes in clinical practice, including a significant increase in the use of telehealth (TH). We sought to assess the impact of the pandemic on the use and perceptions of TH by pediatric infectious diseases (PID) clinicians.

Figure 1. Modalities

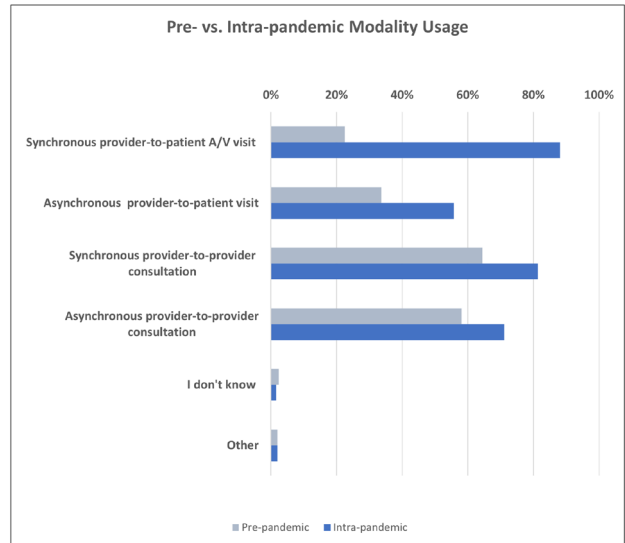
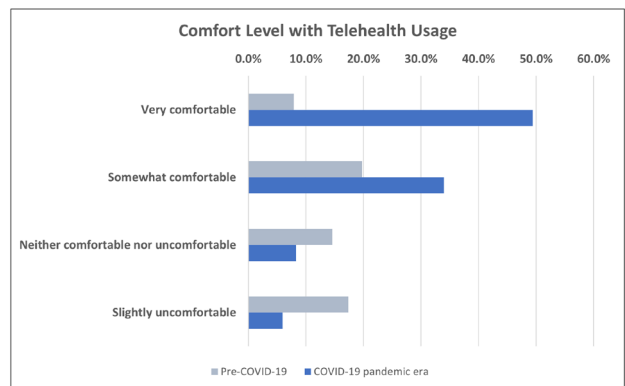


Figure 2. Comfort



Methods. The PIDS* Telehealth Working Group developed a 26-question online survey to assess telehealth practices among PID clinicians. The survey was available via Survey Monkey™ from 12/6/2020-2/26/2021 to members of PIDS, PICNIC*, AAMI and AAP*. Clinicians in active practice in North America were included in the analysis.

Figure 3. Platforms

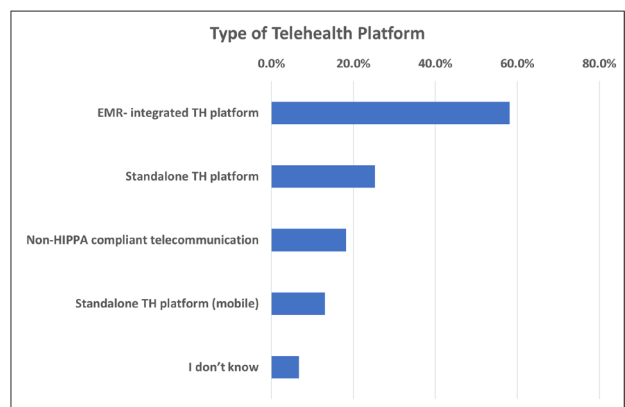
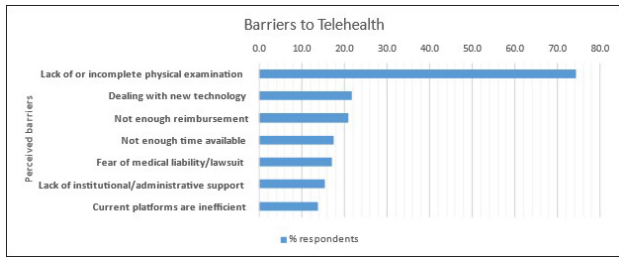


Figure 4. Barriers



Results. The response rate was 10% (n=253) of 2,550 PID clinicians. Physicians accounted for 98.4% of the cohort. The remaining 1.6% were allied health professionals. 81 survey respondents (32%) were in 4 US states (CA, TX, OH and NY) and the province of Quebec. 62.8% of respondents were women, 37% of respondents were 36-45 years old, with 42.7% devoting about 50-99% of their time to direct patient care. TH usage increased during the pandemic with the most gain in provider-patient communications with 65.6% increase for synchronous and 22.1% for asynchronous TH (Figure 1). Gains in provider-provider TH were less than 20%. Respondents reported a 6-fold gain in comfort with TH usage versus pre-pandemic level (Figure 2). Most respondents report being satisfied with their current platform and modality. Once the COVID-19 waivers expire, 70% of respondents plan to continue using TH. The most common TH modality used was an EMR-integrated TH platform (Figure 3). The main perceived barriers to TH adoption were lack of complete physical examination (73.7%), dealing with new technology (21.5%), and insufficient reimbursement (20.8%) (Figure 4).

Conclusion. The COVID-19 pandemic has resulted in a significant increase in the use of TH by PID specialists versus pre-pandemic usage. Respondents gained comfort with use of different telehealth modalities during the pandemic. This data can help clinicians and organizations in planning and resource allocation for telehealth programs in a post-pandemic environment.

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605. Rates of Patient Satisfaction with Home-Based Outpatient Antimicrobial Therapy (OPAT)

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Background. The use of home-based outpatient parenteral antimicrobial therapy (OPAT) is well established. Studies by the National Home Infusion Foundation (NHIF) show that 1.4 million patients receive OPAT each year.¹ With patient satisfaction a priority, NHIF developed, validated, and reliability tested the *Uniform Patient Satisfaction Survey for Home Infusion Providers* in 2017.² Medicare patients are the fastest growing segment in the US and account for a disproportionate share of health care usage. Determining older patient satisfaction is imperative because patients who are more satisfied are more compliant with treatment³ and tend to return for continued care.⁴ Accordingly, the purpose of this study was to determine the level of home-based OPAT patient satisfaction and if a significant difference ($p \leq .05$) exists between the 0-64 and 65+ age groups.

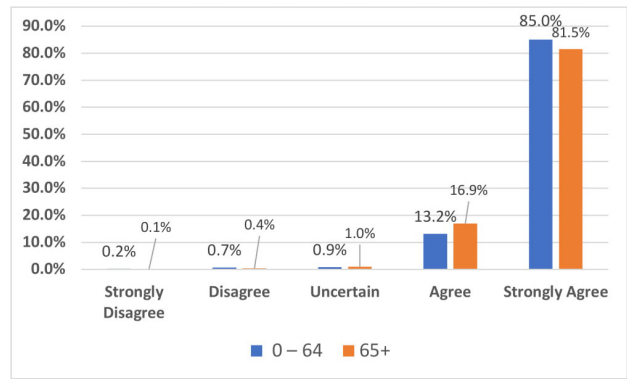
Methods. 2019 and 2020 OPAT survey data (n=5,559) was used in this study. Top box percent, typically used in health care patient satisfaction, was calculated for each survey question. Data was summarized using 7 composite categories formed from the 22 survey questions. Differences ($p \leq .05$) between the age groups was also calculated.

Results. Mean patient age was 64.31 (SD=14.78), 54.99% were 65+ years old, and 58.85% were male. OPAT patients gave high marks to their home infusion service (Table 1). The highest top box % for the composite scores was "Patient instructions" which averaged 98.91%. The most common healthcare satisfaction question "I was satisfied with the overall quality of the services provided" showed significant difference between the age groups ($p = .002$) with the 0-64 groups being more satisfied than the 65+ (Exhibit 1).

Table 1. OPAT Patient Satisfaction Survey Composite Scores: Percent of Patients Selecting Top-Box Score (n= 5,559)

| Composite Category | Survey Question(s) | 2019 & 2020 OPAT (n=5,559) |
|----------------------------------|--------------------|----------------------------|
| 1. Equipment and Supplies | 1-3 | 95.72% |
| 2. General Communication | 4-7 | 90.21% |
| 3. Staff Courtesy Questions | 8a, b, c, d | 93.38% |
| 4. Staff Helpfulness Questions | 9a, b, c, d | 92.16% |
| 5. Patient Instruction Questions | 10a, b, c, d, e | 98.91% |
| 6. Overall Satisfaction | 11 | 83.11% |
| 7. Would Recommend | 12 | 81.42% |

Exhibit 1. Level (%) of Agreement to "I was satisfied with the overall quality of the services provided" by Age Group (n = 5,559)



Conclusion. Analysis of each survey question shows the 65+ patients are less satisfied than younger patients on the following: being informed of side effects, explanation of financial responsibilities, and the helpfulness of the billing staff. Even though the scores are high for both age groups, additional research needs to be conducted to determine why scores for the 65+ age group are lower, and changes needed for improvement. Knowing the level of OPAT patient satisfaction will benefit infectious disease physicians, providers, prescribers, payers, and regulators as they evaluate how to expand home-based services.

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606. Implementation of a Telehealth-based OPAT Early Post-Discharge Clinic May Reduce Hospital Readmission

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Background. Recent studies suggest that early post-discharge follow-up for patients receiving outpatient parenteral antimicrobial therapy (OPAT) reduces readmission rates. We report our experience implementing a telehealth-based clinic to facilitate early (1-2 week) follow-up for selected OPAT patients perceived to be at high risk for readmission.

Methods. We identified patients who met criteria for and completed a supplemental OPAT telehealth visit following the initial seven months after implementation of this clinic (11/1/20 – 5/31/21). Clinical criteria triggering intake of patients for these visits included: endovascular or cardiac device-related infection; treatment with vancomycin, oxacillin/naftillin, or aminoglycosides; ≥ 2 prior hospitalizations within past 1 year; treating Infectious Disease or OPAT team's subjective assessment of high readmission risk. Patients planned for < 14 days of OPAT therapy were excluded. Categorical variables were compared using a Chi-square test at the $\alpha=0.05$ level of significance.

Results. A total of 49 patients completed a telehealth visit; mean time from discharge to telehealth visit was 12.1 days (SD +/- 3.9). An intervention was made in 27% of these visits (13 of 49 patients), most commonly involving attempted mitigation of an adverse event or line-related complication (7 cases). The all-cause, 30-day readmission rate for this cohort was 6.1% (3 of 49 patients), while the rate for OPAT patients who did not receive an early telehealth visit during the same period was 22.7% (52 of 229 patients) which was statistically significant ($p=0.008$). This association of benefit was also found when comparing infection-related, 30-day readmission rates (0% vs 7.4%, $p=0.049$).

Conclusion. Implementation of OPAT telehealth encounters for high-risk patients resulted in a high rate of intervention to mitigate adverse events of OPAT therapy. Readmission occurred less than one-third as frequently in the telehealth group compared to patients with no early follow-up visit. Telehealth-based encounters appear comparable in effectiveness to those previously reported utilizing in-person visits, introducing efficiencies that may allow for broader implementation of this intervention.

Disclosures. Nicolas W. Cortes-Penfield, MD, Nothing to disclose Bryan Alexander, PharmD, Astellas Pharma (Advisor or Review Panel member)

607. Improving Health Maintenance Among Patients with HIV by Implementing a SmartPhrase and a Care Gap in the EPIC Electronic Medical Record

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Background. Most deaths in HIV-infected patients receiving antiretroviral therapy are now related to conditions other than AIDS. HIV infection appears to increase the risk of many non-AIDS-related conditions, highlighting the importance of