to improve communication of the OPAT plan at discharge. Outcomes were assessed prospectively during the post-intervention time period (11/18/2019 - 4/13/2020) and compared to the pre-intervention time period (10/14/2019 - 11/11/2019). Patients were included if discharged on IV antibiotics with follow up by a University of Utah Health ID provider. Patients discharged to long-term acute care facilities were excluded.

Results: Three hundred five patients were included: 231 in the post-intervention period and 74 in the pre-intervention period. Demographic characteristics were similar between time periods with the exception of older age (mean 60 vs 56 years), a greater percentage of patients receiving OPAT via an infusion center (19% vs 9%), and fewer patients receiving OPAT via home health (54% vs 64%) in the pre-intervention cohort. Documentation of an OPAT progress note occurred more frequently (94% vs 85%, p = 0.02) and patients were more likely to be enrolled in our OPAT program (77% vs 51%, p < 0.0001) after implementation of the OPAT SmartForm. Outpatient laboratory monitoring occurred with similar frequency during the pre- and post-intervention time periods (85% vs 82% of expected laboratory encounters completed, p = 0.31). Sixty-day unplanned hospital readmissions were reduced after implementation of the SmartForm (22% vs 35%, p = 0.02). Multivariable logistic regression identified Charlson comorbidity index (OR 1.10, 95% CI: 1.02–1.18) and the pre-intervention time period (OR 1.78, 95% CI: 0.99–3.18) as variables independently associated with readmission.

Conclusion: Implementation of an OPAT SmartForm was associated with improved documentation of the OPAT plan, increased enrollment in the OPAT program, and reduction in hospital readmissions.

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589. Use of Dalbavancin in Facilitating Discharge of High Risk Patients in Low Resource Settings
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Session: P-23. Clinical Practice Issues

Background: Patients who inject intravenous drugs (PWID) can have devastating infections with poor outcomes while being burdensome to the healthcare system, both in terms of lack of payment and length of stay. These issues are only exacerbated in settings where addiction treatment resources such as medication assisted therapy (MAT) are limited. One potential method of alleviating some of this burden is with long acting glyco-lipopeptide antibiotics, such as dalbavancin, to reduce length of stay.

Methods: A retrospective evaluation of 10 PWID patients treated with dalbavancin to facilitate early discharge was performed at Prisma Health Richland hospital in 2019. Reduction in length of stay was calculated based on estimated length of stay typical for treatment of their clinical syndrome.

Results: Average length of stay was reduced by 22.4 days. 9 of the patients were seen inpatient, and one was evaluated outpatient. 4 patients (40%) had documented mental illness in their chart diagnoses, and 7 (70%) of patients were uninsured. 4 (40%) of patients had a history of leaving AMA, 2 (20%) were rehospitalized within 30 days. Of these 10 patients, only 1 patient who already had been following as an outpatient had appropriate follow up with an Infectious Disease specialist after treatment.

Conclusion: Long acting glyco-lipopeptide antibiotics can facilitate discharging patients from an inpatient setting where status as PWID cannot be managed in an outpatient setting. On average, a little over 3 weeks was saved in terms of hospital days, which is a significant reduction in their hospitalization system. However, it remains unclear how much benefit the patient as follow up for this treatment was abysmal and thus it is difficult to assess for the clinical response. Further evaluation is required to test the utility of such treatments, as well as the implementation of MAT and more widespread assistance for this vulnerable population.

Disclosures: All Authors: No reported disclosures

590. Vancomycin Infusion: Algorithmic Analysis of Unstructured Real-World Data Captured from Automated Infusion Devices

L. David Bostick, PhD1; Kalvin Yu, MD, MD2; Cynthia Yamaga, PharmD3; Ann Liu-Ferrara, PhD4; Didier Morel, PhD; Ying P. Tabak, PhD5; Becton, Dickinson and Co., Franklin Lakes, NJ

Session: P-23. Clinical Practice Issues

Background: Algorithmic analysis of infusion data offers potential benefits in managing complex patient populations. Better understanding of infusion data may also have implications for population surveillance and patient-specific clinical decision support for large patient populations. Clinical practice algorithms to depict infusion sessions as bursts of event activity. We examined and extracting, cleansing, and processing is challenging.

Methods: We applied algorithmic techniques to quantitate and visualize vancomycin administration data captured in real-time by automated infusion devices from 3 acute care hospitals. The device data included timestamped infusion events − infusion started, paused, restarted, alarmed, and stopped. We used time density-based segmentation algorithms to depict infusion sessions as bursts of event activity. We examined clinical interpretability of the cluster-defined sessions in defining infusion events, dosing intensity, and duration.

Results: The algorithms identified 13,339 vancomycin infusion sessions from 2,417 unique patients (mean = 5.5 sessions per patient). Clustering captured vancomycin infusion sessions consistently with correct event labels in >98% of cases. This disentangled ambiguity associated with unexpected events (e.g. multiple stopped/start events within a single infusion session). Segmentation of vancomycin infusion events on an example patient timeline is illustrated in Figure 1. The median duration of infusion sessions was 1.55 (1, 3, quartiles: 1.14, 2.02) hours, demonstrating clinical plausibility.

Conclusion: Passive captured vancomycin administration data from automated infusion device systems provide ramifications for real-time bedside patient care practice. With large volume of data, temporal event segmentation can be an efficient approach to generate clinically interpretable insights. This method scales up accuracy and consistency in handling longitudinal dosing data. It can enable real-time population surveillance and patient-specific clinical decision support for large patient populations. Better understanding of infusion data may also have implications for vancomycin pharmacokinetic dosing.

Disclosures: David L. Bostick, PhD, Becton, Dickinson and Co. (Employee) Kalvin Yu, MD, Becton, Dickinson and Company (Employee)/ClaxonSmithKline plc. (Other Financial or Material Support, Funding) Cynthia Yamaga, PharmD, BD (Employee) Ann Liu Ferrara, PhD, Becton, Dickinson and Co. (Employee) Didier Morel, PhD, Becton, Dickinson and Co. (Employee) Ying P. Tabak, PhD, Becton, Dickinson and Co. (Employee)

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### Assessment of Staffing Requirements for an OPAT Program

**Conclusion:** We have assessed the workload for OPAT RN(s) in our program based on our 2019 patient volume. We recommend that one RN can safely manage about 500–550 patients per year. Based on this analysis we were successfully able to justify the need for a second RN for our program.

Any OPAT Program can do such analysis to determine their OPAT staffing needs, and also plan for the anticipated increases in OPAT volume because of increasing longevity of the population, increase in diabetes incidence, invasive procedures such as arthroplasties, cardiac devices, etc.

**Limitations:** This analysis does not include time spent by inpatient staff to arrange for home care and home infusion services. It also does not account for an ID pharmacist time, or the physicians and APP time for management of these patients outside of the billable visit.

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

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### Patient Demographics

#### Characteristic

| 13 OPAT Patients with home telemedicine f/u appts |
|-----------------------------------------------|
| Male | Female | Male to Female | Diabetes |
| 4    | 8      | 1              | 5         |
| CKD  | CAD    | CHF            |           |
| 4    | 1      | 1              |           |

#### Clinical Outcomes

**Conclusion:** Home Telemedicine video visits could be an alternative to in-office appointments for OPAT patients. More studies should be done to evaluate this visit modality.

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

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### 592. A Pilot Program to Evaluate Home Telemedicine Visits in an OPAT Program

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**Session:** P-23. Clinical Practice Issues

**Background:** Outpatient parenteral antimicrobial therapy (OPAT) is a well-established and effective way of delivering and monitoring patients requiring long-term IV antibiotics.1-2. OPAT follow-up appointments are typically in-office appointments. There is limited to no data regarding readmission rates and outcomes of OPAT patients that had home audio-visual (AV) telemedicine (TM) follow-up appointments.

Our OPAT Program began in December 2013 and serves a major academic Level 1 trauma center as well as several smaller community hospitals within our health system. The OPAT team is a multidisciplinary team consisting of ID Physicians, Nurse Practitioners, Pharmacist, Nurses and a Coordinator. Historically, we have evaluated patients in the office within 1-2 weeks of hospital discharge and just prior to antibiotic completion. However, there are several barriers to visit completion including lack of transportation, lack of perceived benefit of appointment by the patient, and other mobility issues. In July 2019, we began a pilot program of offering home AV TM visits.

**Methods:** We conducted a retrospective chart review of commercially insured OPAT patients discharged to home from UPMC Presbyterian from July 2019 to February 2020 that had home AV TM visits. We evaluated 30-day readmission rates and complication rates.

**Results:** 13 OPAT patients had a telemedicine video visit. Patient demographics are listed in Table 1. 8 patients were female. The average age of the patients was 54 (range 35-75). 10 of the 13 (77%) patients were treated for osteomyelitis or septic arthritis. 9 of the 13 (69%) patients received a beta-lactam. 4 patients were readmitted, 3 had an ER visit and 1 patient had a PICC line complication (rash). (Figure 1). Half of the readmissions were due to non-infectious causes (OB delivery & pacemaker placement). 2 patients were readmitted due to ongoing infection but only one of these patients had a home TM appointment before their readmission. The other patient's visit occurred after their readmission. Reasons for ER visits were PICC malfunction, dysuria, and syncope.

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

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#### Patient Demographics

| Characteristics |
|-----------------|
| Male | Female | Male to Female | Diabetes |
| 4    | 8      | 1              | 5         |

| CKD  | CAD    | CHF            |
| 4    | 1      | 1              |

#### Clinical Outcomes

**Conclusion:** Home Telemedicine video visits could be an alternative to in-office appointments for OPAT patients. More studies should be done to evaluate this visit modality.

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

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