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.

Disclosures: Russell J. Benefield, PharmD, Merck and Co (Grant/Research Support)Paratek Pharmaceuticals (Grant/Research Support)Rempex Pharmaceuticals (Grant/Research Support)

589. Use of Dalbavancin in Facilitating Discharge of High Risk Patients in Low Resource Settings

Alexander Milgrom, MD[1];; [1]University of South Carolina School of Medicine, Columbia, SC

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: Discussion

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 savings for the hospital system. However, it remains unclear how much this benefits 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 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

David L. Bostick, PhD[1]; Kalvin Yu, MD[2]; Cynthia Yamaga, PharmD[1]; Ann Liu-Ferrara, PhD[1]; Didier Morel, PhD[1]; Ying P. Tabak, PhD[3]; [1]Becton, Dickinson and Co., Franklin Lakes, New Jersey; [2]Becton, Dickinson and Company, Franklin Lakes, New Jersey; [3]BD, Franklin Lakes, NJ

Session: P-23. Clinical Practice Issues

Background: Large scale research on antimicrobial usage in real-world populations traditionally does not consist of infusion data. With automation, detailed infusion events are captured in device systems, providing opportunities to harness them for patient safety studies. However, due to the unstructured nature of infusion data, the scale-up of data ingestion, cleansing, and processing is challenging.

Figure 1. Illustration of dosing complexity

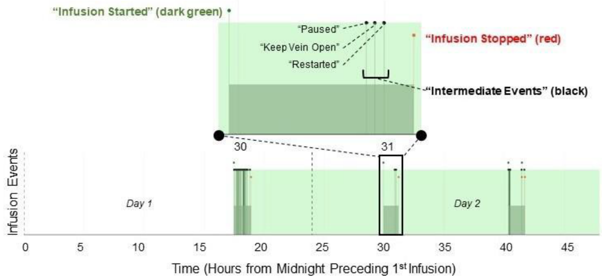

Figure 1. Illustration of dosing complexity. *The treatment period (shaded light green area) can be further auto-clustered into individual infusion sessions (shaded dark green areas). Each session consists of multiple events within a dose administration period that delayed or prolonged a session (see upper panel).*

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. It disentangled ambiguity associated with unexpected events (e.g. multiple stopped/started 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^{st}, 3^{rd} quartiles: 1.14, 2.02) hours, demonstrating clinical plausibility.

Conclusion: Passively captured vancomycin administration data from automated infusion device systems provide ramifications for real-time bed-side 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)GlaxoSmithKline 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)

591. A Model for assessing staffing needs for an Outpatient Parenteral Antibiotic Therapy (OPAT) program

Sonal Munsiff, MD[1]; Colleen Burgoyne, FNP[1]; Peter Goins, RN[1]; [1]Univ. of Rochester, Rochester, NY

Session: P-23. Clinical Practice Issues

Background: Management of patients needing OPAT is complex, and requires a multidisciplinary team for transitioning patients from inpatient to outpatient care, ongoing monitoring of labs, antibiotic levels, managing complications of the drugs and intravenous access, and communicating with patients, family, home infusion pharmacies, home care nursing agencies, and the patients' physicians and other providers. In addition, documentation of each of these activities in the EMR is necessary. Guidance on how to determine number of staff needed for an OPAT program is lacking.

Methods: We created a detailed step by step list of the various activities done by our OPAT nurse (RN) and determined the time needed to perform each activity. We calculated how many hours of nursing time would be needed per week to perform all the activities for patient care based on our OPAT volume.

Results: In 2019 we enrolled 767 patients in 835 episodes of OPAT. Our weekly census averages about 120–135 patients. Median duration on OPAT was 30 days. We calculated that our OPAT RN workload was an average of 47.5 hours/week (range of 40–55 hours/week), with time per activity ranging from 5 minutes to 3 hours (table). As this calculated to more than one full time RN position, additional staff were requested.