

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Patient Safety

Outpatient parenteral antimicrobial therapy (OPAT) in a safety-net hospital: Opportunities for improvement

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Background: Parkland Health is a 900-bed safety-net hospital that serves Dallas County, Texas. It has an OPAT program in which patients are managed via self-administration (S-OPAT), home-health/hemodialysis (H-OPAT), and skilled nursing facilities (SNF-OPAT). We evaluated the reasons for unscheduled emergency department (ED) visits by patients in these groups to identify strategies to decrease unexpected healthcare utilization and to improve safety. **Methods:** We performed a retrospective chart review of all adult patients discharged from Parkland Health on OPAT between April and June 2021. Demographic, medical, and healthcare utilization information, including the date and reason of first unscheduled ED visit after discharge, was collected utilizing a standardized instrument. The institutional review board approved this study. **Results:** In total, 184 patients were discharged with OPAT. Among them, 32% were female and 55% identified as Hispanic; 41% were non-English speakers, and 45% were treated for a musculoskeletal infection. Among all OPAT models of care, 43.4% were S-OPAT patients, 31.5% were H-OPAT patients, and 25% were SNF-OPAT patients (Table 1). The groups differed, and fewer African Americans received H-OPAT. Also, 45% were being treated for musculoskeletal infections and were more likely to be discharged with H- or SNF-OPAT. In addition, 41% were being treated for endovascular infections and 21.7% were being treated for genitourinary infections. The total length of stay in the hospital was longer for SNF-OPAT patients and shorter for S-OPAT patients (Table 2). Among 184 OPAT patients, 41 patients (22.2%) had an ED visit: 17.3% SNF-OPAT patients, 27.6% H-OPAT patients, and 21.3% S-OPAT patients (Table 2). ED visits were attributed to intravenous (IV) access-related problems (12 of 41, 29.0%), worsening of known infection (3 of 41, 7.3%), and abnormal blood test results (2 of 41, 4.9%). Also, 24 ED visits (58%) were not related to underlying infection or OPAT. However, when examined by the OPAT care model, 41% of ED visits among S-OPAT patients, 20% among H-OPAT visits, and 25% among SNF-OPAT visits were related to IV access issues. Among S-OPAT ED visits pertaining to IV access, 71% were for minor issues such as dressing changes or line occlusion or malfunction. **Conclusions:** One-fifth of OPAT patients had an unscheduled ED visit, of whom 20%–41% had issues with IV access. Many of these visits could be avoided with enhanced outreach to patients discharged with OPAT and improved ambulatory capabilities to provide standard services related to maintenance of IV access.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s96

doi:10.1017/ash.2023.364

Table 2

Baseline Patient characteristics	Total	SNF-OPAT	H-OPAT	S-OPAT
Hospital length of stay, days, median (IQR)	10.0 (8.0)	15.0 (6.8)	10.0 (7.0)	8.0 (4.0)
Had ID consult prior to discharge, n (%)	161.0 (87.5)	44.0 (95.6)	49.0 (84.4)	68.0 (85.0)
Had OPAT pharmacy consult, n (%)	183.0 (99.5)	46.0 (100.0)	58.0 (100.0)	79.0 (98.7)
Visited ED within 30 days, n (%)	41.0 (22.3)	8 (17.3)	16 (27.5)	17 (21.2)

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Pediatrics

Association of postnatal age with neonatal hospital-onset bacteremia in a multicenter, retrospective cohort

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Background: Prevention of hospital-onset bacteremia (HOB) in all settings is a healthcare priority. The CDC is developing a neonatal-specific HOB quality metric, but the epidemiology of neonatal HOB is poorly understood. Our objective was to validate a prior single-center finding that HOB risk varies by birthweight and postnatal age in a multicenter cohort. **Methods:** We performed a multicenter, retrospective cohort study of neonates admitted to 4 neonatal intensive care units (NICUs) for ≥4 days between July 1, 2016, and July 1, 2021. HOB was defined as a positive blood culture for bacteria or fungi on day ≥4 of admission. The first HOB event in the hospitalization was counted per neonate. Repeat HOB events during a neonate's admission were excluded. Poisson regression models with robust variance estimates were used to estimate the incidence rate (IR) of HOB, expressed as HOB events per 1,000 patient days and IR ratios (IRRs), within strata defined by CDC birthweight categories and 4-week postnatal age intervals, adjusting for central venous catheter (CVC) presence at time of HOB and study site. **Results:** The analysis included 9,267 neonates, contributing 191,295 patient days and 470 HOB events, with an unadjusted IR of 2.46 per 1,000 patient days (Table 1). Of 477 infants born ≤750 g, 153 (30.1%) had a HOB with an IR of 13.3 (95% CI, 10.5–16.0) events per 1,000 patient days in the first 4 weeks after birth (Fig. 1). After adjusting for CVC presence and study site, infants ≤750 g had a higher HOB rate in the first 4 weeks of life (IRR, 7.45; 95% CI, 3.81–14.56) compared to infants ≥2,500 g. After 8 weeks of life, there was no difference in HOB rate in the 2 groups (IRR, 0.8, 95% CI, 0.3–2.7). **Conclusions:** Neonates born ≤750 g were at highest risk for HOB within the first 4 weeks after birth; however, risk for

Table 1: Maternal and Neonatal Demographic and Clinical Characteristics

	No HOB ^a N = 8797	HOB N=470	Total N=9267
Site^b, N (%)			
A	4688 (53.3)	107 (22.8)	4795 (51.7)
B ^c	2106 (23.9)	84 (17.9)	2190 (23.6)
C	2003 (22.8)	279 (59.4)	2282 (24.6)
Clinical Characteristics, N (%)			
Birthweight			
≤ 750g	324 (3.7)	153 (32.6)	477 (5.1)
751 - 1000g	351 (4)	73 (15.5)	424 (4.6)
1001g - 1500g	791 (9)	64 (13.6)	855 (9.2)
1501g - 2500g	3219 (36.6)	80 (17)	3299 (35.6)
≥ 2501g	4112 (46.7)	100 (21.3)	4212 (45.5)
Presence of a Central Line	2952 (33.6)	376 (80)	3328 (35.9)
Mortality	231 (2.6)	87 (18.5)	318 (3.4)
Sociodemographic Characteristics, N (%)			
American Indian or Alaska Native	97 (1.1)	14 (3)	111 (1.2)
Asian or Pacific Islander	583 (6.6)	44 (9.4)	627 (6.8)
Black	3408 (38.7)	137 (29.1)	3545 (38.3)
White	3771 (42.9)	200 (42.6)	3971 (42.8)
Two or more	59 (0.7)	3 (0.6)	62 (0.7)
Unknown	879 (10)	72 (15.3)	951 (10.3)
Hispanic or Latino	1063 (12.1)	81 (17.2)	1144 (12.3)
Not Hispanic or Latino	7483 (85.1)	373 (79.4)	7856 (84.8)
Unknown Ethnicity	251 (2.9)	16 (3.4)	267 (2.9)

a: Hospital-onset bacteremia

b: Three academic sites contributed four NICUs

c: Infants included from July 2019–July 2021

Table 1	Total	SNF-OPAT	H-OPAT	S-OPAT
Patient characteristics	384 (100.0%)	46 (25%)	58 (31.5%)	80 (43.4%)
Age, mean (SD), years	54.0 (13.8)	55.3 (13.5)	57.1 (14.8)	51.4 (12.9)
Female, n (%)	58.0 (31.5)	9.0 (19.5)	20.0 (34.4)	29.0 (36.2)
Race, n (%)				
White	128.0 (69.6)	25.0 (54.3)	39.0 (67.2)	64.0 (80.0)
Black or African-American	51.0 (27.7)	21.0 (46.6)	28.0 (28.0)	14.0 (70.0)
Asian	3.0 (1.6)	0.0 (0.0)	3.0 (5.3)	0.0 (0.0)
American Indian or Alaska Native	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Native Hawaiian or other Pacific Islander	2.0 (1.1)	0.0 (0.0)	0.0 (0.0)	2.0 (2.5)
Hispanic ethnic group, n (%)	101.0 (54.9)	14.0 (30.4)	26.0 (56.5)	61.0 (76.2)
Language n, (%)				
English	108.0 (58.7)	40.0 (86.9)	38.0 (65.5)	30.0 (37.5)
Spanish	72.0 (39.1)	6.0 (13.0)	18.0 (31.0)	48.0 (60.0)
Other	4.0 (2.2)	0.0 (0.0)	2.0 (3.4)	2.0 (2.5)
Infectious disease diagnosis for OPAT, n (%) *				
Bone and joint infection	83.0 (45.1)	24.0 (52.1)	28.0 (48.2)	31.0 (38.7)
Endovascular infection	77.0 (41.8)	18.0 (39.1)	21.0 (36.2)	38.0 (48.1)
Skin and soft tissue infection	17.0 (9.2)	4.0 (8.7)	9.0 (15.5)	4.0 (5.0)
Central nervous system infection	14.0 (7.8)	6.0 (13.0)	3.0 (5.2)	5.0 (6.3)
Intra-abdominal infection	11.0 (6.0)	3.0 (6.5)	2.0 (3.4)	6.0 (7.5)
Genitourinary infection	40.0 (21.7)	3.0 (6.5)	12.0 (20.6)	25.0 (31.2)
Pulmonary infection	4.0 (2.2)	0.0 (0.0)	1.0 (1.8)	3.0 (3.8)
IV infection	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Other	1.0 (0.5)	0.0 (0.0)	1.0 (1.7)	0.0 (0.0)

*Patients could have more than 1 diagnosis